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Autumn 1949

VOLUME 2, NUMBER 3

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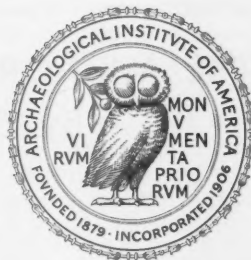
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FIG. 1. Han "TLV" mirror, first century A.D. The pattern shows an idealized plan of the Universe as the Chinese of that time imagined it to be. Diameter, $9\frac{1}{4}$ inches.

CHINESE MIRRORS AND CHINESE CIVILIZATION

By Schuyler Cammann

A native of New York and a graduate of Yale (A.B., 1935), Harvard (M.A., 1941), and Johns Hopkins (Ph.D., 1949), Schuyler Cammann has taught at Yale-in-China and traveled widely in China, Indo-China, Burma, and India. During the war he served in the Navy with the rank of lieutenant. He has recently been appointed assistant professor of Chinese in the University of Pennsylvania, assistant curator of the Chinese section of the University Museum, and an editor of the Journal of the American Oriental Society.

CHINESE BRONZE MIRRORS, RECOVERED FROM tombs or unearthed in building modern roads and airfields, have recently become very popular with Western collectors. They are admired not only for their technical perfection, which is apparent in their fine casting and the

complex alloys employed to make them, but also for their highly decorated backs. This decoration was not mere incidental ornament but was put on for a purpose. In addition to their use as looking-glasses, mirrors have always been considered by the Chinese as being highly effective in

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FIG. 2. Early T'ang marriage mirror, seventh century A.D. The lion-like animals, the parrots, and the grapes are all foreign elements, derived from the Near East; but the arrangement of matched pairs to indicate duality is purely Chinese. Diameter, 9 inches.

This mirror is reproduced again on the cover of this issue.



Reuben Goldberg photos

magic and for averting evil influences, and as such they have decorated them with all manner of symbols drawn from their religious and magical beliefs. The University Museum has recently assembled a small collection of these mirrors, especially chosen to illustrate certain basic techniques in casting and the styles of decoration characteristic of major periods in Chinese art, but more especially to demonstrate some fundamental concepts of Chinese thought, expressed in their symbolic decoration.

The earliest and finest of the Chinese metal mirrors that have been recovered are thought to date from about the sixth to the third centuries B.C. These have a variety of intricate patterns on them, most if not all of which probably had definite symbolic meanings for the people of their time. But the wholesale burning of the books by the First Emperor in 213 B.C. has deprived us of contemporary records that would give us clues to what they might have meant. Furthermore, a radical change in the whole vocabulary of the arts occurred about the same time, with the rise of a new Chinese civilization, making it virtually impossible to try to interpret the old things by comparison with later symbols.

The first Chinese mirror patterns that we can interpret with any confidence date from the Han Dynasty (206 B.C.-220 A.D.). This was an era when China, having just been unified for the first time, with vast additions of territory that gave her a powerful empire stretching from the Pacific to Persia, settled down to develop a strong, individual culture, fully as great as the older one which had been destroyed in the process of unification. The traditions then established—though they were to undergo many changes in the course of later centuries—lived on until the fall of the last dynasty in 1911, and to some extent, in the remoter parts of China, they still persist.

A prominent phase of this later Chinese culture, though it probably had roots in a far earlier time, was the religious-magical belief that, by using symbols representing the universe in miniature, it would be possible to acquire some of the concentrated power of the greater Universe, in order to give an individual, or a group, or the nation, physical or spiritual strength, and protection against demons or evil influences in general. This concept appears in many guises on the backs of mirrors.

Usually, in this type of symbolism, the Chinese

did not represent the Universe as a whole, but only a part of it, suggesting the larger entity. However, this part was expected to stress the fundamental order in the Universe (the source of Universal power) by somehow suggesting the balance of two opposed forces which were thought to underlie all Nature. These were the positive force, Yang, representing light, heat, activity and spiritual things, and the negative force, Yin, sym-



FIG. 3. Late T'ang marriage mirror, eighth or ninth century A.D. The theme of duality again, this time with purely Chinese elements. Diameter, 6 inches.

bolizing darkness, cold, passivity and material things. It was believed that these two forces should ideally exist in perfect balance everywhere, in order to achieve order, peace, and harmony in all things.

In the highest expressions of Chinese art, the interplay of these forces was very subtly suggested. For example, in the landscape paintings of the Sung dynasty, they are indicated by a balanced opposition of dark, solid peaks amid light drifting clouds, or massed hills looming above swift-flowing rivers, the paintings being deliberate attempts by philosopher-scholars to convey metaphysical concepts rather than to present a naturalistic rendering or actual scenery. In the minor arts, such as the decorations on mirror backs, however, the

underlying idea of a balanced duality in nature was usually somewhat more obviously expressed.

But the expressions of thought in the minor arts were essentially more important in the cultural life of China. For only the nobles and highest officials could ever see the fine landscape scrolls hung on palace walls, while bronze mirrors of good quality were cast on a fairly extensive scale, and were available even to the less well-to-do. Furthermore, the mirror patterns were expressive of the thought of the people as a whole, rather than of a small élite group of scholar-connoisseurs and their noble patrons. The present collection, covering two thousand years of China's cultural history, shows several ways in which the Chinese have symbolized the balance and harmony in Nature.

Sometimes the artist or artisan thought in broader terms and tried to represent the whole sweep of the physical universe in a diagram representing Space and Time. The simplest way of indicating Space was by showing symbolically the Five Directions—the four cardinal points of the compass and the center, considered as a fixed point. On the mirrors the center was usually adequately expressed by the high round boss, through which passed the braided cord that formed the handle for holding it or for fastening it to a stand. South, which was always shown uppermost on the old Chinese maps, was represented by the Scarlet Bird, west by the White Tiger, east by the Azure Dragon, and north by the Black Tortoise paired with a snake. These five directions—and the creatures which stood for them—were also associated with the Five Elements, south—fire, north—water, east—wood, west—metal, and center—earth. They also were linked with the Yin-Yang philosophy. South was considered as the region of pure Yang, represented by the resplendent Fire-bird, while north was thought to harbor pure Yin, in the realm of the neutral tortoise. East was considered to have more Yang than Yin, and west more Yin than Yang; while the center marked the axis of balance between the two vital forces.

Another way of indicating Space was by showing the Eight Trigrams (*pa kua*), symbols composed of combinations of straight and broken lines arranged in groups of three. These stood for the Eight Directions—the four cardinal points and the intermediate ones (NE, SE, SW, NW)—as well as for other basic elements in Nature.

Lastly, the concept of Time was conveyed by using the twelve symbols of the Far Eastern Zodiac, either twelve animals, or twelve Chinese characters substituting for them, or both. For, in addition to representing twelve constellations and the associated regions of the sky, each of these individually represented a two-hour period of time in the course of a day, a month of a year, or—in combination with each of the Five Elements in succession—a year in the sixty-year cycle.

WITH THESE POINTS IN MIND, we can go on to consider the individual mirrors in the exhibition.

The first (FIGURE 1) dates from the Han Dynasty, specifically from the beginning of the Christian era. It was found in West China, by a friend of the writer, in a Han tomb, together with coins and other objects of first-century date. The inscription in the inner ring says that it was made in the Imperial Factory (*Shang Fang*), and its superior workmanship, visible through the corrosion of nineteen centuries, shows that it probably was.

This example illustrates quite well the contemporary technique of casting mirrors with a soft stone master-mould. The small, pointed bosses, and probably the large central boss as well, were apparently drilled into the flat stone, while the main straight lines were gouged out in shallow grooves; then the characters and intricate figures of the background must have been engraved with a sharp tool. The shape of the characters, in particular, unquestionably indicates cutting in stone. Probably the stone carving then served as a master-mould for a wax model from which another mould was made by the lost-wax (*cire-perdue*) process, for certain irregularities in the inner surface of this mirror, and others of the same time, suggest a wax rather than a stone contact in the direct mould. After removal from the mould, the central boss, grooves, and rims were regularly burnished; on this particular example, the salient features of the patterns have been silvered, or else specially treated to preserve the original silvery finish of the white bronze, or *speculum*, from which the mirror was made.

For a long time Western sinologists and collectors have called mirrors of this type "TLV mirrors" because of the resemblance of some of the grooves to those Roman letters. Actually, as

we have recently attempted to demonstrate in another article,¹ these marks apparently serve to make of the inner pattern an ancient plan of the Earth, the Earth being conceived as a large rectangle, with the center set off in a smaller square, and right angles (here represented by the V's) cutting off the corners to leave four rectangular fields extending out in the four directions. —The latter are here labeled by the four creatures,



Reuben Goldberg photo

FIG. 4. Sung "Four Spirits" mirror, tenth or eleventh century A.D. The traditional animals of the Four Directions, symbolizing the Universe in miniature. Diameter, 3 inches.

which have been silvered to make them stand out more prominently. The corners of the big rectangle must be considered as extending out under the heavy outer ring, which with its cloud pattern apparently represents the enclosing rim of the dome of the sky (thought to fall within the bounds of the square of Earth). The central pattern of the inner square in the center of the cross was apparently intended to represent China surrounded by the "Four Seas," a figurative expression referring to the lands of the barbarians beyond the gates of the civilized "Middle Kingdom." (The T's here are conventionalized gates, as

¹ "The 'TLV' Pattern on Cosmic Mirrors of the Han Dynasty," *Journal of the American Oriental Society* 68 (1948) 159-167.

shown by later diagrams on which they are labeled as such.)

This concept of an idealized map of the Earth, as the men of Han knew it, is further emphasized on this particular mirror by the figures of spirit-men or "barbarians," and wild birds and animals in the four outer fields; while the inner square contains the twelve signs of the zodiac, which incidentally are symbols of Chinese science and order; and the arrow-shaped projections raying out from the center may be conceived of as emanations of divine power and grace extending out from the center of the "Middle Kingdom," which



Reuben Goldberg photo

FIG. 5. Ming marriage mirror, sixteenth century A.D. The pattern shows, in greatly deteriorated technique, a human couple and emblems of good fortune. Diameter $3\frac{1}{2}$ inches.

was at the same time, in Chinese eyes, the center of the world.

In short, the whole pattern on this Han mirror represents the Universe with its elements in orderly balance around a central point. The opposition of the two basic forces which underlie Nature are not prominently emphasized here, though as we have seen they are represented by the creatures of the directions, Bird vs. Tortoise, and Dragon vs. Tiger.

The second mirror (FIGURE 2) is a product of the earlier part of the T'ang Dynasty (618-907

A.D.). The T'ang was China's golden age, when the empire, which had fallen apart soon after the collapse of the Han, was once again reunited and very strong. The power and solidity of the new empire, and its far-flung international connections, are reflected perhaps subconsciously in many productions of early T'ang art. For these reveal a natural strength and comparative simplicity, with an extensive use of foreign motives, many of them from the Near East. This mirror, made of finest speculum, expresses well the spirit of the times, with its four masses of main figures firmly delineated against a plain background. Foreign influence is expressed in the parrots and grapes, which were presumably derived from Persian motives, and by the eight lobes of its border, a popular T'ang convention probably suggested by the eight-petaled lotus, a chief symbol of the Buddhist faith derived from India.

From its decoration we gather that this was a marriage mirror, which would have been held by the bride-to-be in her lap, to avert evil influences, as she was carried to the groom's home for the ceremony, and later hung over the marriage bed to protect the couple from malignant spirits and to ensure their happiness.² The central portion shows, on opposite sides of the boss, a male and female mythical lion (*suan-i*)—the former indicated by the horn on his brow—and parrot mates at the bottom. The lobes of the rim contain opposed pairs of sparrows and butterflies—also to be considered as mates—together with twin buds, suggesting flowers which will bloom to fulfillment together. These are all natural symbols of a human couple in the balanced harmony of ideal marriage; while the crane at the top of the central field is a common symbol of longevity, conveying the wish that the couple in question might live to a ripe old age, and perhaps even enjoy immortality together. Thus, by extension—as the microcosm was supposed to reflect the macrocosm—these symbols of the lasting harmony of an ideal couple would have recalled to the men of that time the enduring balance of the two great forces in Nature.

A Late T'ang marriage mirror of a rather familiar type (FIGURE 3) bears a somewhat similar portrayal of the ideas suggested by the last.

² Another form of T'ang marriage mirror has been described by the writer in "A Rare T'ang Mirror," *Art Quarterly* 9 (1946) 93-114.

Two magpies, one on each side of the boss, carry cords in their beaks. As the Chinese name for magpie is "the bird of Happiness" (*hsi-ch'iao*), and since "Twin happiness" (*shuang hsi*) is a poetic expression for happy marriage, these two magpies can be considered as symbols of ideal mates, and the cords as "bonds of matrimony." The moon disc at the top, with its hare and toad under the cassia tree (which the Chinese claim to see instead of our "man in the moon") is an old symbol of the Yin; while the dragon soaring above the waves, at the bottom, was a contemporary Yang symbol. Thus the balanced birds, and these other two symbols for the elemental forces in Nature, also represented both marital harmony within a home and the larger harmony in the Universe as a whole.

The Sung Dynasty (960–1280), which followed the T'ang, was an age of political weakness and profound aesthetic refinement. While the "Northern barbarians" thundered at the gates of China, and finally entered the country to raid and to seize large areas of its territory, the Sung Court ignored reality like the proverbial ostrich, and quietly cultivated the arts. One characteristic of the period was the continuation of a highly-developed art of silver-working begun in the T'ang, one phase of which is illustrated by the two magnificent serving bowls from this dynasty in the University Museum. A small Sung mirror excavated near Sian (FIGURE 4) shows another type of contemporary silverwork on the thin, hammered plate of that metal set into its white bronze back. This has a simple pattern showing the animals of the Four Directions, in high relief against a roughened background, around the prominent boss; the whole representing in most abbreviated form the idea of the universe in microcosm.

A very late marriage mirror (FIGURE 5), presumably from the Ming Dynasty (1368–1644), shows the cruder workmanship and poor, coppery alloy characteristic of more recent times. For the great metal-working techniques of the past had become lost arts as a result of the barbarian invasions and the period of foreign rule under the Mongols. Even the symbolism has become more obvious. On either side of the boss are the figures of a man and a woman. The boss itself is shaped in the form of an ingot of silver, while above is a crane, and below, crossed books (Buddhist scrip-

tures), the three symbols representing, respectively, wealth, long life, and wisdom. —Perhaps the motive of the books was especially chosen because it is a paired symbol, in keeping with the basic significance of the mirror's pattern.

During the Ch'ing Dynasty (1644–1912) China was under the domination of the Manchus; a northern people who seized the country after the collapse of the Ming rule. The Manchus, being "barbarians" from the Chinese standpoint, with no previous experience of vast wealth and absolute power, had a taste for things that were large and



Reuben Goldberg photo

FIG. 6. Ch'ing cloisonné mirror, nineteenth century. Old motives combined in bright colored enamels on a mirror that is not very functional. Diameter, 13½ inches.

showy. Under their reign the art of cloisonné working was developed to a high degree, as the bright colors of the enamels appealed to the rather unsophisticated tastes of the Manchu rulers.

A bronze mirror with a cloisonné back from the later Ch'ing period (FIGURE 6) illustrates the fashion of the times. Very large, and brightly colored, its decoration recalls a pattern very common on T'ang marriage mirrors, consisting of two opposed phoenixes and two opposed peonies. Dif-

ferent colors for the plumage of the two birds and for the two flowers emphasize, in a manner that was impossible to achieve in monochrome, the contrast in the opposing elements of the universal duality. The pattern is undoubtedly very decorative, but significantly the metal of the reflecting surface is very poor compared to the earlier mirrors, so that it would be almost useless for its proper function. —In the later Ch'ing, display meant more than utility.

The last example (FIGURE 7) is a modern



Reuben Goldberg photo

FIG. 7. Modern lucky mirror, twentieth century. The old symbols have mostly lost their meaning and are used merely for good luck on this mirror of very inferior technique. Diameter, $1\frac{7}{8}$ inches.

brass "lucky mirror," such as are still used in the remoter parts of China to avert evil; carried as a personal charm, hung over a doorway, or attached to the headstall of a lead-horse in a caravan. Roughly cast, it has three concentric rings of design around the crude wire carrying-loop. The inner one has the Eight Trigrams, emblems of the directions, the next has the characters of the zodiacal signs, and the outer one has the twelve animals of the zodiac. In days of old this would have represented a simple Space and Time diagram of the Universal order. But almost all the people who make or use such mirrors at the present day have no idea what the symbols mean. For them, the decoration consists only of cabalistic signs, potent for foiling the spirits of evil. Note, too, that this type of mirror is totally useless for reflecting, with its bad alloy and rough finish. For with the importation of foreign glass mirrors and their cheap manufacture in China itself, the metal mirror lost one of its chief functions, and only in the regions least affected by Western influence has it retained its other, the ancient magical one.

Thus we see from these seven examples that in the course of two thousand years the Chinese gradually lost the once high art of mirror making, with a progressive degeneration both in casting and in alloys. At the same time, the symbols on the mirrors degenerated from active, vivid symbols of a living philosophy to a mere repetition of stock symbols from the past, used as cabalistic signs. Thus these mirrors in their technique and in their decoration subtly reveal the glory and the decline of the civilization that produced them.



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Another Statue Salvaged from the Sea

YOUTH OF MARATHON

By George E. Mylonas

FIG. 1. Bronze Youth of Marathon: Detail of Head.



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PERHAPS ONE OF THE MOST INTERESTING works of art which has been given back to us by the sea and which was not discussed in the exciting article of Professor KARO, published in *ARCHAEOLOGY* 1 (1948) 179-185, is the bronze statue illustrated here (FIGURES 1-4). To archaeologists and lovers of art it is known as the "Youth of Marathon," because it was fished out of the blue waters of the bay of Marathon by EVANGELOS LEONIDAS, a fisherman, on the 12th day of June, 1925.

For a while, bundled in its barnacles, incrustation, and dried mud (FIGURE 4), it lay among the seaweeds and sands of the picturesque shore of Raphina, a sight never to be forgotten, as if it needed the brilliant sunshine, the smiling skies, and the caressing breezes of Attica to come back to life again. It was shortly taken from its idyllic perch on the shores of Marathon to the National Museum of Greece at Athens in a regular taxicab. (I have never ceased wondering what the spirit of its sculptor felt as his masterpiece was enjoying

its taxi drive through the pine-clad hillocks of Mesogeia!)

Fortunately, in reviving the statue the authorities of the National Museum refused to employ the acid-and-putty technique used for the cleaning of the "Youth of Anticythera," and initiated a distilled water and gentle rubbing technique that has preserved the ancient surface of the statue, and its warm patina which adds so much to the general visual appreciation of the form. In the years that followed its recovery the statue attracted considerable attention, and previous to the discovery of the Zeus of Artemision it enjoyed a unique position in the collection of the National Museum.

The complete publication of the statue by Professor KONSTANTINOS A. RHOMAIOS, then director of the National Museum, appeared in the *Deltion* (1924-25, pages 146-187, plates 2-5), where detailed pictures are to be found. The bronze "Youth of Marathon" stands 1.24 m. in height and is almost completely preserved with



FIG. 2. Bronze Youth of Marathon: Front View.

the exception of the toes and instep of the right foot, now successfully restored in plaster, and the object held in the extended left hand. Professor RHOMAIOS has successfully placed the statue in the years between 340 and 320 B.C. and has attributed it to the school of Praxiteles, the most renowned Athenian sculptor of the fourth century. Indeed, the dreamy character of the face of the youth, the charming nonchalance, the liquid silhouette line, the graceful balance, and the exquisite modeling make the attribution certain.

How the statue was lost in the bay of Marathon is not certain. What an interesting story it could tell were it endowed with speech by its creator! In the absence of a personal tale of adventure, the statue may be assumed to have formed part of the loot that was being carried away by greedy Romans, as one item in a heavily loaded galley that sank in the bay of Marathon. That fate overtook a number of similar treasure boats,

as we read in Karo's article, and rumors have it that other works of art as well as planks of wood and metal trimmings of a galley were found in the general area of the bay.

Thus our statue may prove to be the pointer for further discovery, the sign for another exciting adventure in the field of deep-sea excavating. Maybe such a treasure ship is awaiting its explorer in the bay of Marathon. This is a very challenging and thrilling thought, a thought, however, based not on fact but on rumor born out of wishful thinking. Perhaps it may be more correct to assume that the statue, originally standing in the Villa of Herodes Atticus, was being carried away by some Roman official when it accidentally escaped in the blue waters of the bay, there to await the fisherman's net and discovery.

Whom our youth represents might prove to be the next question in the reconstruction of its life story. Of course the bronze of Marathon



FIG. 3. Bronze Youth of Marathon: Side View.

under any name will be an important work of art that will delight the specialist and the layman alike. Yet archaeologists as well as the general public love to speculate on the personality of such statues and it may prove interesting to join them. It has been suggested that our bronze is the youthful god Hermes in the act of realizing the possibilities of the tortoise shell which he carries in his extended left hand; possibilities that gave birth to the lyre which Hermes was forced to yield to his elder brother Apollo. One recalls the famous lines of the Homeric *Hymn to Hermes*, where the discovery is narrated with the freshness characteristic of epic poetry:

"For it was Hermes who first made the tortoise a singer. . . . The creature fell in his way at the courtyard gate, where it was feeding on the rich grass before the dwelling, waddling along. When he saw it, the luck-bringing son of Zeus laughed and said: 'An omen of great luck for me so soon! I do not slight it. Hail, comrade of the feast, lovely in shape, sounding at the dance! With joy I meet you! Where got you that rich gaud for covering, that spangled shell—a tortoise living in the mountains? But I will take and carry you within; you shall help me and I will do you no disgrace, though first of all you must profit me. It is better to be at home; harm may come out of doors. Living, you shall be a spell against mischievous witchcraft; but if you die, then you shall make sweetest song.' (Verses 25–38. Translation by HUGH E. EVELYN-WHITE.)

The raised right hand would be a vivid expression of the inner pleasure experienced at the realization of these possibilities.

Poetic and interesting as this identification may be, it does not seem to be the correct one. The pressed fingers and palm of the extended left hand, which held the missing object, as well as the traces left by that object on the palm, seem to indicate that a heavy round object, apparently a discus, was being weighed on the left hand. If that be correct then the youth is an athlete, a discobolus victorious in that game, as the ribbon wound around his curly hair implies. Thus we are nearer the mark when we assume that "the Youth of Marathon" is a victor statue of an athlete

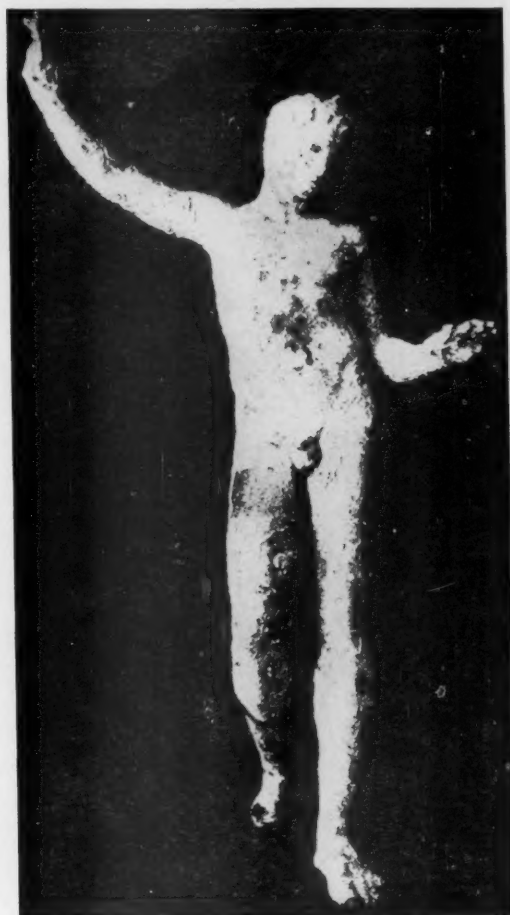


FIG. 4. Bronze Youth of Marathon: The statue as recovered from the sea, before cleaning.

who was represented in the act of weighing the official discus to be used in the competition, and who expressed his satisfaction and assurance for the outcome of the contest by the gesture of the right hand. Whether a "Hermes" or a victorious discobolus, however, the "Youth of Marathon" will remain as one of the most significant objects of art preserved for us by the blue waters of the Mediterranean.

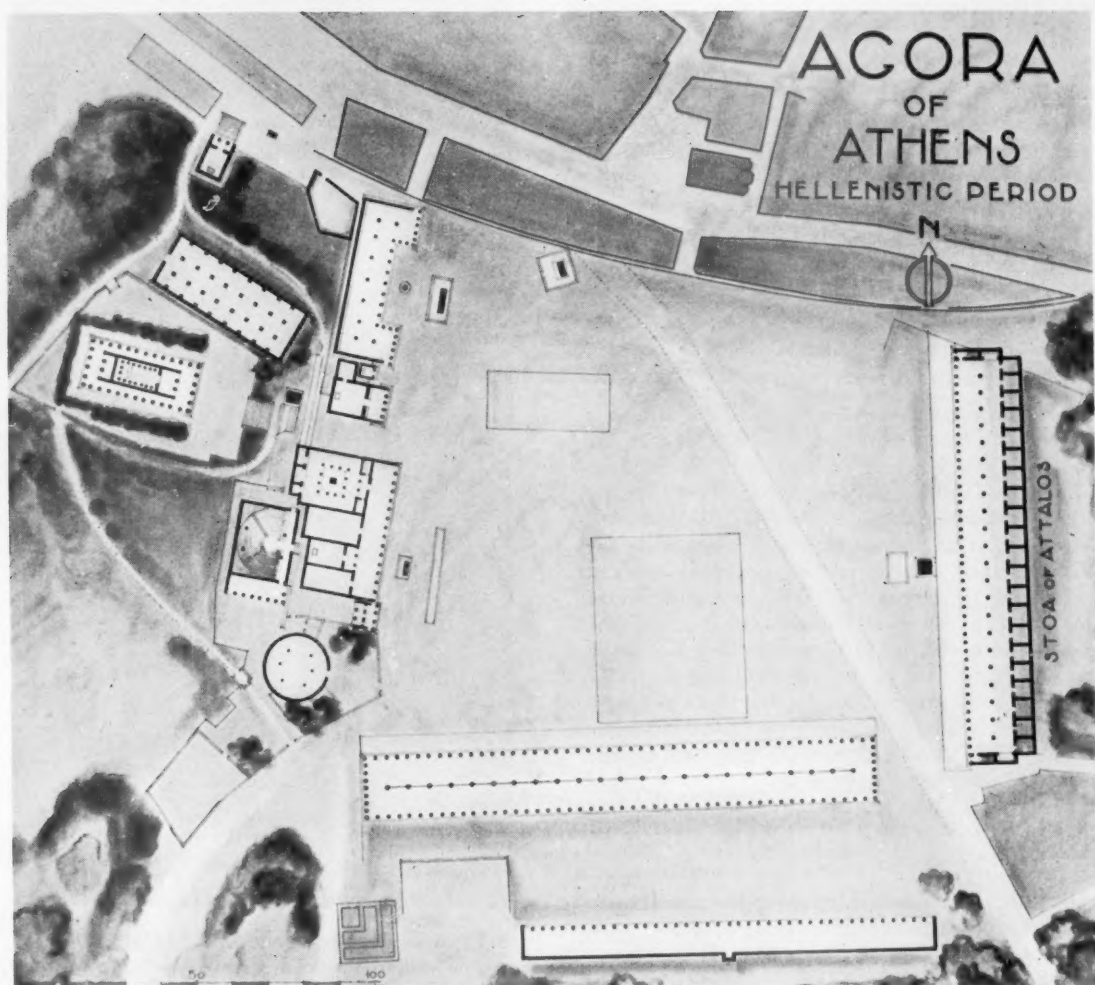


FIG. 1. Plan of the market place of Athens in the second century B.C., showing the buildings of the west side (Colonnade or Stoa of Zeus, small Temple of Apollo, Sanctuary of the Mother of the Gods, Council House, Tholos, and, on an upper terrace, the Temple of Hephaistos; see *ARCHAEOLOGY* 1.57), two stoas on the south side, and the Stoa of Attalos on the east. The large structures indicated in outline inside the square are the Temple of Ares, toward the northwest, and the Odeion of Agrippa, in the south centre; these buildings were not placed here until the first century B.C. The north side of the Agora has not yet been excavated.

The whole area of the Agora square was about eight acres.

STOA OF ATTALOS

By Homer A. Thompson

GIFT OF A PRINCE OF PERGAMON TO THE PEOPLE OF ATHENS, THE GREAT COLONNADE ON THE EAST SIDE OF THE MARKET PLACE IS BEING RE-CONSTRUCTED TO SERVE AS THE AGORA MUSEUM.

Photographs by Alison Frantz

FIG. 2. The ruins of the Stoa of Attalos, from the southeast. At the far end, the northeast corner still stands to its original height. Modern buildings bordering the Agora area are visible beyond.



IN THE LONG HISTORY OF ATHENS ONE OF THE most interesting chapters, and perhaps the most touching, tells of the benefactions heaped on the already venerable city by the Hellenistic princes of the third and second centuries before Christ.

The most generous of all her benefactors were the royal family of the small but vigorous kingdom of Pergamon in northwestern Asia Minor. The city of Pergamon had taken over from Athens the worship of Athena Parthenos, together with the festival appropriate to the goddess, the Panathenaia. Individual princes of Pergamon studied in the schools of Athens and maintained friendly relations with her philosophers. In return for these and many other cultural debts, the Per-

gamenes expressed their gratitude in concrete form. We hear of a garden laid out in the Academy by Attalos I (241-197 B.C.) and named in honor of the philosopher Lakydes. To the same Attalos the Acropolis owed one of its most distinctive monuments, an elaborate war memorial in bronze.

Pergamene princes of the next generation were still more munificent in their gifts to Athens. Of one brother, Philetairos, it is recorded only that he deserved well of the city. A second brother, Eumenes II (197-159 B.C.), filled a long-standing need of the Athenians in a truly princely fashion by building the two-storeyed stoa or colonnade on the south slope of the Acropolis, placing it so as to afford convenient and commodious shelter for



FIG. 3. The ruins of the Stoa of Attalos, south end, from the west. The doorways of four shops of the ground floor series open through the wall. Above and to the right is the Acropolis; the building visible over the fortification wall is the North Porch of the Temple of Erechtheus.

the spectators at the Theatre of Dionysos. The third brother, Attalos II (159–138 B.C.), made a still more memorable change in the aspect of Athens by erecting the colonnade that bears his name along the east side of the Agora, the market square of the city.

The Stoa of Attalos represents a major part of the complete remodeling of the Agora that was carried out in the second century B.C. Previously the west side of the square had been fairly clearly defined by a row of public buildings all facing on the open area; the north side also, as we know from literary evidence, had been closed by a large colonnade, the Painted Stoa; but the east and the south sides were only vaguely delimited by miscellaneous buildings big and little. The construction, in the course of the second century, of the Stoa of Attalos, the Middle Stoa, and the South Stoa, gave a more unified and monumental appearance to the square; henceforth the area was closed on all four sides by deep columnar porches that provided the citizens with an abundance of shelter from rain or sun in all seasons of the year, at all hours of the day.

The scheme of Attalos' Stoa seems disarmingly simple; it was in fact marvellously suited to the purpose of the building. Along the back of its long narrow rectangle a row of twenty-one single-roomed shops looked out through ample doorways on a deep porch, supported by a row of columns along its front and another on its middle line. The same general scheme was repeated in a second storey accessible by means of a stairway at

either end. Between the slender front columns of the upper storey ran a low marble parapet over which the strolling citizens might look down on the multitudinous monuments and the busy life of the square, or westward toward the splendid marble temple of Hephaistos.

In front of the Stoa lay a broad terrace. Since the square slopes gently down from south to north, the terrace retaining wall in its northern part rose well above the square and provided an excellent background for a whole series of large monuments, among them, on the axis of the building, a four-horse chariot group in bronze, and in front of this a bema, or speaker's platform, used in addressing large assemblies of citizens.

The scale of the building was impressive. Its overall dimensions were 116.50 x 19.50 metres, i.e., about 382 x 64 feet; the main façade measured 11.50 metres or about 37 feet in height; the average size of the shops was 5 metres, about 16 feet, square; the terrace had a width of 7.50 metres or 24 feet.

Technically the Stoa was an admirable piece of construction. The walls were of gray Peiraic limestone, stuccoed. Blue Hymettian marble was used for the front steps, and white Pentelic for the superstructure of the main façade. The interior trim (dado, door frames, benches, etc.) was also of marble, both blue and white.

The building served a variety of purposes: a fashionable shopping center, a pleasant promenade for the citizens at any time, a veritable grandstand perfectly placed for those who would

FIG. 4. The northeast corner of the Stoa of Attalos, as drawn by the English traveler EDWARD DODWELL at the beginning of the nineteenth century. Since this drawing shows certain vital parts of the north end of the Stoa which have since disappeared, it will be invaluable for planning the reconstruction.



view the passage of the Panathenaic Procession. It was also counted a signal honor for a well-deserving citizen to have his portrait, whether painted or sculptured, set up in the Stoa of Attalos.

In its original form the Stoa stood for some four centuries, until the year A.D. 267, when the Herulians, a band of barbarians from the Danube region, made a sudden raid on Athens and set fire to the Stoa along with all the other buildings in and about the Agora. The Athenians, terrified by the prospect of other such raids, hastily erected an inner enceinte to protect the core of the city.

The new fortification wall fell on the line of the Stoa and was indeed carried down the very middle of the ancient building. The front part of the Stoa was demolished and its material was incorporated in the fortifications; the back part, i.e. the shops, was left standing. This cruel stroke actually assured the survival of the Stoa in a more complete form than most of its neighbors, for the wall built in the latter part of the third century A.D. continued to serve as an essential part of the city's fortifications down into the 16th century and so shielded the remains of the Stoa.

In the years 1859-62 and 1898-1902 the Greek Archaeological Society stripped away the fortification wall and revealed the walls of the Stoa still standing in places to their full height. The discovery on the spot of many marbles from the superstructure of the building permitted provisional restorations on paper, but the building itself was left in such a state that the visitor could only with difficulty comprehend its original scheme

or appreciate the grandeur it had had when new.

SINCE THE INCEPTION IN 1931 of the excavation of the Agora by the American School of Classical Studies at Athens it has been the intention to retain all the finds on the spot, for both the ancient site and its furnishings gain greatly in interest and intelligibility from their continued association. Thus far the finds, together with the expedition's workrooms, have been accommodated in a group of nineteenth-century houses in the middle of the area.

Since these buildings are now crowded to capacity, and since they must in any case be removed to permit the exploration of ancient buildings beneath them, a new and more fitting home must be found for the permanent museum. Nowhere, within the 25-acre area opened up by the excavations, does it seem possible to erect a modern building, of adequate scale, that would not do violence either to the ancient remains or to the natural configuration of the region.

In view of this impasse, the decision has been made to rebuild the Stoa of Attalos for use as a permanent Agora Museum. In recognition of its cultural and touristic importance, the project has been included in the program for the rehabilitation of museums and archaeological sites in Greece under the Economic Cooperation Administration, with the assistance of funds made available under the Marshall Plan. The general program comes under the direction of the Greek Ministry of Education, on whose behalf the American School of Classical Studies has undertaken to carry out the



FIG. 5 (left). A column capital from the Sanctuary of Athena in Pergamon. This curious variety of capital, based on an Egyptian prototype, was popular among Pergamene architects and was employed in various buildings erected in Greece by the kings of Pergamon.

FIG. 6 (right). Fragments of a capital of Pergamene type from the Stoa of Attalos in Athens. Although no complete specimen from this building has been found, the design can be recovered from the study of the many fragments such as these, and through comparison with the better preserved example from Pergamon.



work. As a piece of reconstruction, the work on the Stoa falls under the immediate supervision of the Department of Reconstruction, directed by Professor ANASTASIOS ORLANDOS. The undertaking will thus have the inestimable benefit of Professor ORLANDOS' accumulated skill and wide experience in this field.

By great good fortune, JOHN TRAVLOS, a former pupil of Professor ORLANDOS and for many years Architect of the School's excavations, has been designated supervising architect, with responsibility both for recovering the original scheme of the building and for effecting its restoration in stone and marble. The field work that remains to be done on the site is directed by EUGENE VANDERPOOL, a veteran member of the Agora staff.

Operations began on April 4, 1949. The first task is to scoop out the earth filling from inside the ancient foundations in order to study the remains of the pre-Stoa buildings and to assemble all available evidence for the design of the Stoa itself. With the new material thus gathered, the outstanding architectural uncertainties are being solved one by one.

In the installation of the museum it is proposed to use the area of the shops on the ground floor for the display of the smaller objects of interest

to all visitors. Statues and architectural marbles may be shown to excellent advantage in the great colonnade. The vast masses of material of interest chiefly to scholars, such as the many groups of pottery from wells, cisterns and tombs, may be housed in the second storey. Here also should be the facilities for conservation, photography, and study. The vast space within the massive foundations beneath the floor of colonnade and terrace will provide storage for secondary material. In the Stoa-Museum, as thus conceived, all the finds from the Agora may be processed, studied, and viewed in immediate conjunction with their setting.

The reconstruction of the Stoa will bring still other advantages. In this way, as in no other, will be made intelligible the design of a first-rate example of one of the most characteristic types of ancient civic architecture. The Stoa as rebuilt will once more, as in antiquity, define the eastern limit of the public square, while from its upper floor the visitor will be able to look down upon the remains of the ancient buildings of the Agora, which will be represented in their original form in a model by his side.

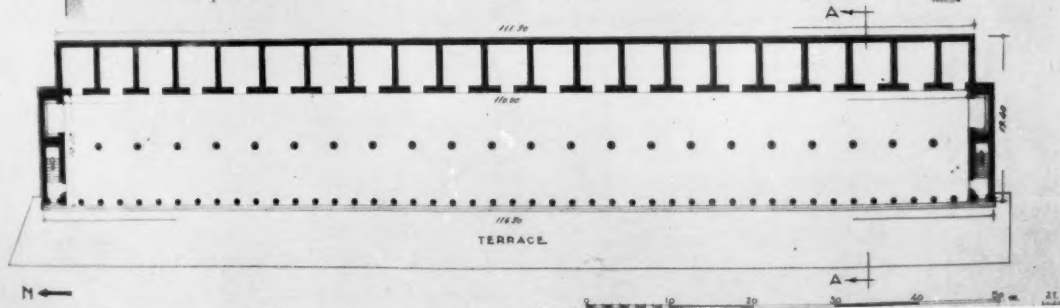
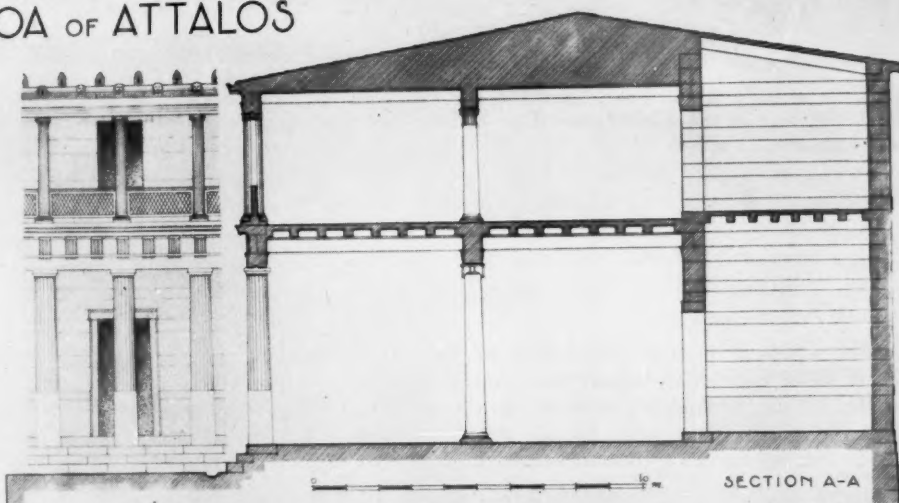
It is singularly appropriate that this great building, erected in the second century B.C. by an eastern Philhellene in a gesture of gratitude and veneration toward Athens, should be restored in

FIG. 7 (right, upper). The Stoa of Attalos. A restored perspective view of the building in its original state, drawn by Mr. GORHAM PHILLIPS STEVENS, Honorary Architect of the American School of Classical Studies (1948). Further research carried out since this drawing was made will necessitate several revisions; e.g., the ends of the Stoa must be finished with gables rather than sloping roofs, and the stairway at the middle of the front must be replaced by a four-horse chariot group in bronze.

FIG. 8 (right, lower). The Stoa of Attalos. Plan, cross-section, and partial elevation, drawn by JOHN TRAVLOS, supervising architect of the reconstruction (1949).



STOA OF ATTALOS



the twentieth century of our era with the help of western Philhellenes who likewise look to Athens as a chief source of their cultural and spiritual heritage.



FIG. 9. A marble statue base, found in the ruins of the Stoa of Attalos at Athens. The cuttings in the top of the block served to secure the feet of a seated bronze statue. The inscription reads:

KARNEADES OF AZENIA
ATTALOS AND ARIARATHES OF SYPALETTOS
DEDICATED

Karneades was a leading philosopher of the second century B.C., the founder and head of the New Academy, under whom two young Anatolian princes, Attalos and Ariarathes, had studied. In 162 B.C. Ariarathes ascended to the throne of Cappadocia, and in 159 B.C. Attalos succeeded his brother Eumenes as the ruler of Pergamon. Out of respect for their old teacher, the two monarchs joined in setting up his portrait in the great new colonnade.

On this monument Attalos and Ariarathes identify themselves not by their royal titles, but as plain citizens of Athens, members of the deme Sypalettos, in which they had received honorary citizenship while studying under Karneades.

TO THE MEMORY OF MY FRIEND JEAN MASSONNET,
OROLAUNENSIS, KILLED IN THE BATTLE OF THE LYS,
MAY 1940

ARLON AND ITS RECENT DISCOVERIES

By Marcel Renard*

A native of Ernage, a graduate of the University of Brussels, and a veteran of travels in Greece and Italy and of excavations in France, Dr. Renard is a professor at the University of Brussels and an officer of various Belgian philological and archaeological associations.

ALTHOUGH ARLON, ONE OF THE MOST important of Belgo-Roman towns, has not been excavated as we should like, this place has often yielded Roman antiquities, so that the local museum contains the richest collection of inscriptions and engraved stones in Belgium.

Recent private construction has once more revealed Roman substructures, and the State Service of Antiquities has taken advantage of the opportunity for research, which has made impor-

tant discoveries possible. Therefore, after a short account of Arlon in antiquity, I should like to present to the readers of *ARCHAEOLOGY* the result of the latest excavations.

During the Roman period Arlon was an important *vicus* of the *civitas Treverorum*, about sixty km. from Trier. The Roman town was situated at the foot of St. Donat-hill, along the banks of the Semois river, the sources of which are found in the neighborhood. It was the crossing of two Roman roads: that from Metz to Cologne, passing through Tongres, and that from Trier to Reims.

Orolaunum, the Latin name of the city, is of Celtic origin. But we know very little about the Gaulish past of Arlon. Only a few objects belonging to this period have been found: a Trevirian coin from the countryside, and a gold *torques* from the vicinity of the sources of the Semois river. It is nevertheless likely that St. Donat-hill was at that time an *oppidum* where a market was held. Elsewhere Celtic traditions long persisted in this part of Gaul; in the fourth century A.D. the Gaulish language was still a living tongue in some parts of the Trevirian territory. The Roman *vicus* goes back at least to the first century A.D. Among the buildings of the little town we know only of some substructures of houses and of the existence of baths whose virtues were celebrated in a verse inscription that has been partially recovered. There were also schools there; a stone relief showing a schoolmaster makes this abundantly clear. Moreover, the museum contains architectural fragments of important monuments.

In the valley towards the southeast of the modern town, where the old Roman city lay, a little church belonging to the late fourth or the

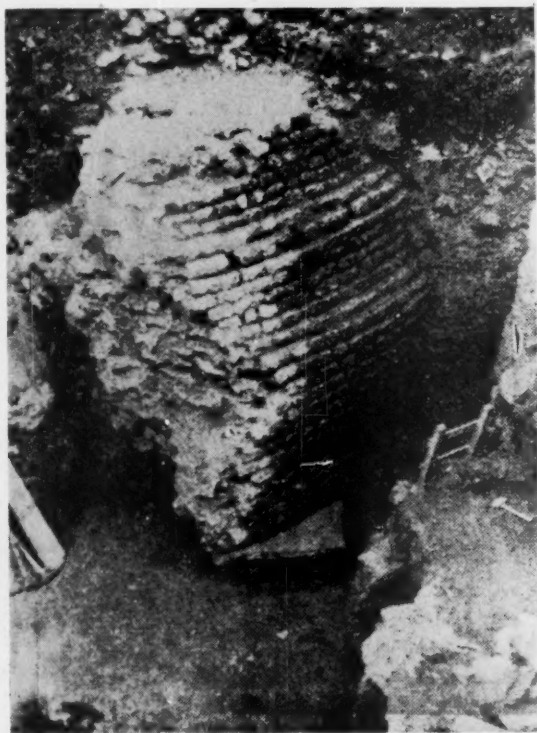


FIG. 1. Arlon, Belgium. Tower of late Roman fortification wall, as excavated.

* Translated by JACOB HAMMER.



FIG. 2. Arlon, Belgium. Late Roman fortifications, showing base of tower and wall with outward flare.

early fifth century was brought to light in 1936. This Christian sanctuary was of the rectangular basilica type, with apse at its end. In the sub-structure was found a dedication to the *Domus divina*, worshipped by the *Orolaunenses*, which was taken from an earlier monument. This church was burnt down during the fifth century and the plot became a Merovingian burial ground.

Cemeteries have also been found in Arlon. On the left bank of the Semois, a cemetery of the first century has yielded tombs containing sigillate pottery, bronze objects, and glass. Along the road to Luxemburg, about fifty tombs of another necropolis of the second and third centuries brought to light ceramic ware, glass and fibulae. Some tombs were also found northeast of the town.

The funerary stones of the last years of the Roman occupation were used as building material, particularly in the fourth century when the city walls were built. During later centuries many such reliefs and inscriptions were lost or destroyed, but those which remain are sufficient to give a vivid picture of the everyday life of the *Orolaunenses*. These engraved stones present four architectural patterns: pillar, stele, funerary altar, and house-form cippus. They show three phases of art: a military period during the first century, a local school during the second part of the second century, and the late style of the third century.

A few years ago Belgian archaeologists had identified in a modern cellar a tower belonging to the fourth-century wall, a portion of which had appeared elsewhere. In another cellar a new portion of the wall was discovered, containing in its foundations fragments of a frieze, the top of a

funerary monument, a stone representing four gods, and a pillar of which the front represented two men and a woman and the two lateral faces respectively a female figure and a draped philosopher holding a long staff with a box containing *volumina* lying at his feet. More recently a stone adorned with a bacchic scene has been discovered. It is therefore not surprising that recent excavations which have been continued about the wall of the Late Empire have furnished conspicuous results.

The wall, as it is generally the case in Belgium, was erected after the invasions of the third century. But in Arlon the *vicus* that was rebuilt after

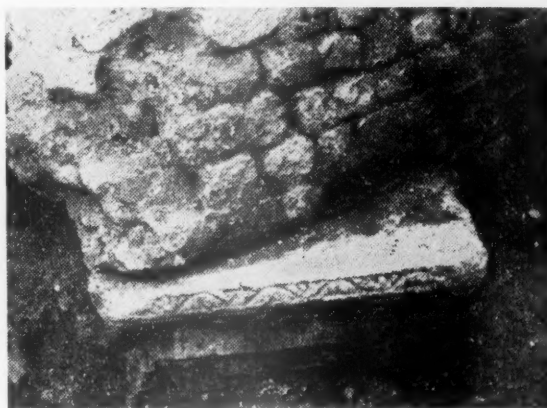


FIG. 3. Arlon, Belgium. Fragment of a sculptured entablature, reused in late Roman fortifications. This fragment is also visible in FIG. 1.

the destructions of the barbarians was not enclosed with fortifications. As St. Donat-hill rises above the valley, this hill became a fort (*castrum*) by means of an enclosure of walls that ran around the hill and formed an irregular oval (axes: 300 and 225 m.). Thus the fort overlooked the roads and protected the inhabitants in case of danger.

The tower (FIGURE 1) and the portion of the wall which has been excavated are still about 4 m. high. They enable us to perceive the methods of construction clearly. A bed of rough stones and clay forms the foundation, upon which lie important architectural fragments derived chiefly, as we have observed, from the cemeteries. These foundations actually carry the wall which is constructed of stones and mortar, faced with a veneer of squared stones. The lower part of the wall has a prominent outward flare (FIGURE 2).

The excavation has produced several fragments

of monuments which will enrich our knowledge of provincial art and customs in this part of the Roman Empire. Thanks to the kindness of Mr. BREUER, Director of the State Service of Antiquities, and the courtesy of his assistant, Dr. GEUBEL, we are able to publish here some of these interesting documents.

First a fragment of a polychrome entablature ornamented with a fine sculptured pattern appeared at the lower part of the tower (FIGURES 1 and 3). From another monument comes a piece of architrave (FIGURE 4) the painting of which was still visible at the time of discovery; the ivory, red and green colors on the floral motifs pictured on the stone in relief were particularly fresh. The investigations have also yielded two parts of a tomb, with a concave cubic base (FIGURE 4) for receiving the funeral ashes and an upper block which was the beginning of a pyramidal crown. This tomb is not the only one of this kind, but the others are less complete.

On a stele, a funeral inscription is engraved in an arch, while at each corner a Victory holds a palm and a crown, symbolizing the triumph of the dead in afterlife.



FIG. 4. Arlon, Belgium. Fragment of architrave, and lower part of a funeral urn, hollowed out to receive the ashes of the dead.



FIG. 5. Arlon, Belgium. Grave stele, front, showing husband and wife.

Another stele belongs to a type which is characteristic of the local sculpture of the second century. The front of this stone shows the husband and his wife with the attributes of their occupations (FIGURE 5); the lateral faces contain a nude female figure of ritual significance.

The lower part of a pyramidal crown, the top of which presents imbrications, is decorated with various scenes: a banquet (husband, wife and slave), a man pursuing or charming a snake, and a man pursuing a hare. These themes are common in the funerary sculpture, especially in Gaul.

Other sculptures still remain in the foundations of the wall; we may see a medallion with a bust which is displayed by two winged Cupids holding drapery.

The tower and the portion of the wall now disengaged will remain visible *in situ* under the present level of the town. For this purpose, the substructures will be shielded by a concrete platform. It is probable also that the newly discovered sculptures will be preserved there, so that in a few months Arlon will possess its subterranean museum.

A READING LIST IN AMERICAN ARCHAEOLOGY

By J. Alden Mason

THE FOLLOWING LISTS OF TITLES HAVE BEEN compiled as representing reliable (with exceptions as noted) works on the archaeology of the Americas, for the information and guidance of readers without special training in this field. The ideal—not followed with absolute consistency—has been to suggest relatively comprehensive, and not too technical, works in English by recognized authorities, the more recent and up-to-date books and those either purchasable or obtainable in most large libraries. A few old archaeological classics have been added. Almost all the works cited contain extensive bibliographies for additional reading. Articles in periodicals, of however great scientific importance, are omitted. All the important colonial sources are also omitted.

Excluded also are books that present points of view regarding American origins that are not accepted by most (if by any) American archaeol-

ogists of high standing, such as those of the school of Egyptian diffusion, the best of which is probably J. LESLIE MITCHELL's *The Conquest of the Maya* (Dutton, New York 1935). In the same class is HAROLD S. GLADWIN's recent diffusionist work *Men Out of Asia* (Whittlesey House, New York 1937), which has awakened even more spirited opposition. The books deriving American Indian civilizations from "lost continents" (Atlantis, Mu) have scarcely been honored by such scientific notice.

The list could have been doubled or tripled, and much good material has had to be omitted. No professional archaeologist will agree with it entirely; each would suggest numerous substitutions.

The list for Mesoamerica was assembled by my colleague at the University of Pennsylvania Museum, LINTON SATTERTHWAITE.

The sequence in each list is chronological.

1. THE AMERICAS, GENERAL

HOLMES, WILLIAM H. *Handbook of Aboriginal American Antiquities*; Part 1, Introductory, the Lithic Industries. 380 pages, 223 text figures, bibliography. Bureau of American Ethnology, Smithsonian Institution, Washington 1919 (Bulletin 60, Part 1)

The best technological study of American Indian stonework, by the old master. Most of the data are from north of Mexico. No further parts were ever written or published.

WISSLER, CLARK. *The American Indian; an Introduction to the Anthropology of the New World*. 466 pages, 82 text figures, maps, bibliography, etc. Oxford University Press, New York 1938

The standard authority on the subject. Mainly a book of reference, but easy reading. Archaeology is, of course, only one of the subjects treated.

KELEMEN, PAL. *Medieval American Art*. Volume 1, text, 414 pages, bibliography, etc.; Volume 2, 306 plates. Macmillan, New York 1943

The second volume is a grand collection of pictures of a thousand outstanding examples of American archaeological art and architecture, from North, Middle, and South America. The highly reliable and well-written text includes not only cogent descriptions but excellent historical-archaeological background sketches.

2. UNITED STATES AND CANADA, GENERAL

MARTIN, PAUL S. *Archaeology of North America*. 122 pages, 8 plates, 10 text figures, bibliography, etc. Field Museum of Natural History, Chicago 1933 (Department of Anthropology, Guide, Part 2)

A shorter, and earlier, sketch than MARTIN-QUIMBY-COLLIER, *Indians Before Columbus* (see below).

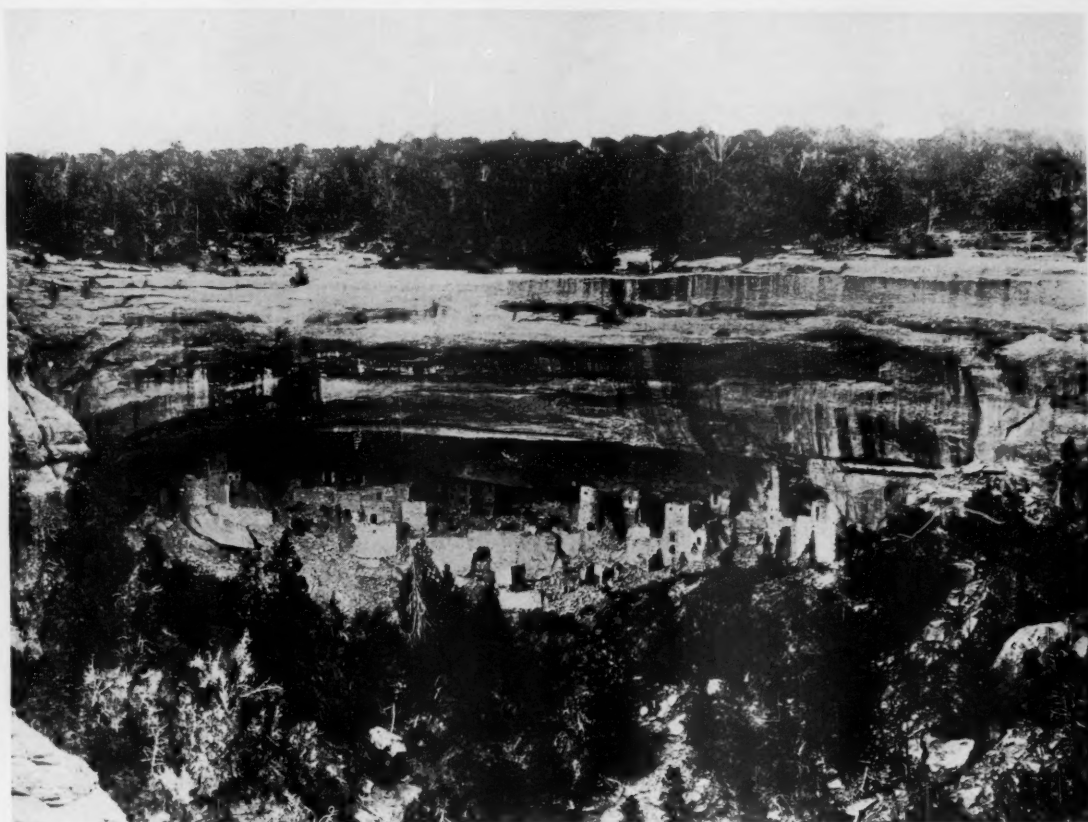
VAILLANT, GEORGE C. *Indian Arts of North America*. 63 pages, 96 plates, maps, charts, bibliography. Harper and Brothers, New York and London 1939

An admirable selection of art objects, both ancient and recent. All are carefully described and full data given, and the initial text pages give, in well-expressed style, the scientific and artistic background.

DOUGLAS, FREDERIC H., and RENE D'HARNONCOURT. *Indian Art of the United States*. 219 pages, 16 color plates, very many illustrations, maps, bibliography, etc. Museum of Modern Art, New York 1941

Outstanding art objects, archaeological as well as ethnological, are portrayed. The well-written and reliable text gives the background as well as descriptions.

MARTIN, PAUL S., GEORGE I. QUIMBY, and DONALD COLLIER. *Indians Before Columbus*. xxiii, 582 pages,



North American Indian Culture: The Cliff Palace at Mesa Verde, Colorado

frontispiece, 121 figures, chronological chart, large bibliography. University of Chicago Press, Chicago 1947

Practically the only solid comprehensive book on archaeology north of Mexico, as well as being up to date. Written for the interested layman and the beginning student. It fills a long-felt want.

3. UNITED STATES AND CANADA, REGIONAL

SQUIER, EPHRAIM G., and E. H. DAVIS. *Ancient Monuments of the Mississippi Valley*. 306 pages, 48 plates, 207 text figures, maps, etc. New York 1848

The classic old source, with many plans and illustrations of sites in their former condition. The first Contribution to Knowledge of the Smithsonian Institution. The scientific researches of the last century, of course, have resulted in supplanting some of the opinions and deductions.

JONES, CHARLES C. *Antiquities of the Southern Indians, Particularly of the Georgia Tribes*. 532 pages, 30 plates. New York 1873

The old famous source for the archaeology of the southeastern United States. Valuable for descriptions, illustrations, and excerpts from historical sources.

KIDDER, ALFRED VINCENT. *An Introduction to the Study of Southwestern Archaeology*. 151 pages, 50 plates, 25 text figures, bibliography. Yale University Press, New Haven 1924

The standard authority for several decades and still a fundamental work, although a little outdated.

SHETRONE, HENRY CLYDE. *The Mound Builders*. 508 pages, 298 figures, bibliography. D. Appleton & Co., New York and London 1930

A little outdated by the results of excavations and changes in opinion of the last twenty years, but still the best semi-popular, sound, comprehensive work on the entire "mound" area.

MCGREGOR, JOHN C. *Southwestern Archaeology*. 403 pages, 162 text figures and additional unnumbered illustrations, bibliography. J. Wiley and Sons, New York 1941

One of the best recent, comprehensive, semi-popular reliable works on the Southwest, including recent dendrochronological results.

GRIFFIN, JAMES B. *The Fort Ancient Aspect; Its Cultural and Chronological Position in Mississippi Valley Archaeology*. 392 pages, 157 plates, 18 figures, 10 maps,

bibliography. University of Michigan Press, Ann Arbor 1943

Thorough, solid, and comprehensive. Though stressing one cultural phase, it gives a good overall sketch of recent opinions on the archaeology of the northern Mississippi Valley.

RITCHIE, WILLIAM AUGUSTUS. *The Pre-Iroquoian Occupations of New York State*. 416 pages, 165 plates, 6 text figures, tables, maps, bibliography, etc. Rochester Museum of Arts and Sciences, Rochester 1944 (Memoir No. 1)

The prehistory of New York State and surrounding regions, based on many years of careful archaeological excavations.

WORMINGTON, H. MARIE. *Ancient Man in North America*. 89 pages, illustrations, bibliography. Colorado Museum of Natural History, Denver 1944

An excellent, brief, up-to-date sketch of this interesting problem, noting and appraising all the pertinent discoveries, old and new.

WEBB, WILLIAM S., and CHARLES E. SNOW. *The Adena People*. 369 pages, 28 figures, charts, tables, map, bibliography. University of Kentucky, Lexington 1945 (Reports in Anthropology and Archaeology, Vol. 6)

A thorough, sound, but rather technical study of one of the most important prehistoric peoples of the Ohio River Valley.

JOHNSON, FREDERICK, Editor. *Man in Northeastern North America*. 347 pages, 1 plate, 21 figures, 9 tables, bibliography. Phillips Academy, Andover 1946 (Papers of the Robert S. Peabody Foundation for Archaeology, Volume 3)

Twelve authoritative papers by recognized experts, five of which are devoted to archaeology. The standard up-to-date work on this region.

KRIEGER, ALEX D. *Culture Complexes and Chronology in Northern Texas, with Extensions of Puebloan Datings to the Mississippi Valley*. 366 pages, 35 plates, 26 figures, map, tables, bibliography. University of Texas, Austin 1946 (U. of Texas publication no. 4640)

A prize-winning, sound, thorough study of the archaeology of northern Texas, and the light it sheds on prehistoric relations between the Pueblo region and the Mississippi Valley.

LEWIS, THOMAS M. N., and MADELINE KNEBERG. *Hiwassee Island. An Archaeological Account of Four Tennessee Indian Peoples*. 188 pages, 118 plates, 5 maps, 32 text figures, 35 tables, bibliography. University of Tennessee Press, Knoxville 1946

An archaeological classic, sound, readable, up-to-date. Illustrative reconstructions of the life of the people form a welcome feature too often omitted in archaeological works.

WORMINGTON, H. MARIE. *Prehistoric Indians of the Southwest*. 191 pages, 58 plate figures, bibliography. Colorado Museum of Natural History, Denver 1947 (Popular Series, No. 7)

One of the best digests of southwestern archaeology for the layman. Up-to-date and well written.

DE LAGUNA, FEDERICA. *The Prehistory of Northern North America as Seen from the Yukon*. 360 pages, 30

plates, 33 figures, maps, bibliography. Society for American Archaeology, Menasha 1947 (Memoir 3)

Based on the results of her excavations in Indian and Eskimo Alaska, the author draws deductions regarding the prehistoric relations of northeastern Asia, the Eskimo, and the woodland Indians.

LARSEN, HELGE, and FROELICH G. RAINEY. *Ipiutak and the Arctic Whale Hunting Culture*. 276 pages, 101 plates, 60 text figures, bibliography. American Museum of Natural History, New York 1948 (Anthropological Papers, Volume 42)

The latest word on Eskimo prehistory, with special reference to the recent extraordinary and very old finds at Ipiutak, Alaska.

NEWELL, H. PERRY, and ALEX D. KRIEGER. *The George C. Davis Site, Cherokee County, Texas*. 255 pages, 66 plates and figures, 20 tables, bibliography. Society for American Archaeology, Menasha 1949 (Memoir 5)

Full report on the excavation of a strategically located site, with important, sound, and up-to-date interpretations and deductions regarding connections with the Mississippi Valley and with Middle America.

4. MESOAMERICA,* GENERAL

JOYCE, THOMAS A. *Maya and Mexican Art*. viii, 191 pages, illustrations including 63 pages of half-tones, end-paper map, "Select Bibliography." The Studio, London 1927

Short expositions under various headings, including architecture.

SPINDEN, HERBERT J. *Ancient Civilizations of Mexico and Central America*. 271 pages, 47 plates, text figures, map, chronological chart, bibliography, index. American Museum of Natural History, New York 1928 (Handbook Series, No. 3)

Condensed general account of ancient Maya and other advanced cultures; an excellent introduction to the subject. The relatively early dating of Classic Maya ("First Empire" or "Old Empire") sites is no longer universally accepted.

VAILLANT, GEORGE C. *Artists and Craftsmen in Ancient Central America*. 102 pages, about 160 illustrations, bibliography. American Museum of Natural History, New York 1935 (Guide Leaflet Series, No. 88)

A reprint of seven short, splendidly illustrated articles giving a cross-section view of ancient Mesoamerican arts and crafts, including architecture and metallurgy. The bibliography lists 29 titles in English recommended as of general interest to laymen.

5. MESOAMERICA: MEXICO, EXCLUDING PARTS OF THE MAYA AREA

PRESCOTT, WILLIAM H. *The Conquest of Mexico*. 2 Vols., ill. Chatto and Windus, London 1922 (reprint)

The classic historical account of the fall of the Aztec. Supplies

* "The region of high culture in southern Mexico and adjacent parts of Central America." — Ed.



Reuben Goldberg photo

Middle American Indian Culture: The Middle American Hall of the University Museum, Philadelphia, as arranged for the exhibition held in Spring 1949.

much information useful for an understanding of archaeological findings.

THOMPSON, J. ERIC. *Mexico Before Cortez. An Account of the Daily Life, Religion, and Ritual of the Aztecs and Kindred Peoples.* x, 298 pages, 33 plates, text figures, bibliography, index. Charles Scribner's Sons, New York and London 1933

Reconstructs ancient culture and history on the basis of documentary as well as archaeological evidence; written for laymen, without documentation.

VAILLANT, GEORGE C. *Aztecs of Mexico: Origin, Rise, and Fall of the Aztec Nation.* xxii, 340 pages, frontispiece in color, 64 plates, 28 text figures, 17 tables, end-paper map, bibliography, index. Doubleday, Doran & Co., Garden City 1941

Similar to THOMPSON, 1933, in time-space coverage and general approach, with fuller and more up-to-date account of the archaeology; documented (footnotes are collected at the end of the text); bibliography extensive, without selective guidance. The book is suitable for reading by laymen and planned to be useful also to specially interested students.

6. MESOAMERICA: MAYA AREA

STEPHENS, JOHN L. *Incidents of Travel in Central America, Chiapas and Yucatan.* 2 vols., illustrated with engravings after FREDERICK CATHERWOOD. Harper, New York 1841

STEPHENS, JOHN L. *Incidents of Travel in Yucatan.* 2 vols., illustrated with engravings after FREDERICK CATHERWOOD. Harper, New York 1843

These two books of travel and exploration in the Maya area first aroused general interest in Middle American archaeology; they describe Maya ruins, and also the country and the people, and make delightful reading. The former work was reprinted in Spring 1949 by Rutgers University Press, New Brunswick; the latter is out of print but not particularly scarce and is worth hunting for.

MORRIS, EARL H., JEAN CHARLOT, and ANN A. MORRIS. *The Temple of the Warriors at Chichen Itza, Yucatan.* Volume I: xix, 484 pages, frontispiece in color, 323 figures, bibliography; Volume II: viii, 170 plates (many in color) including maps, plans, photographs, draw-

ings, paintings. Carnegie Institution of Washington, Washington 1931 (Publication No. 406)

Detailed and very fully illustrated account of the excavation and partial restoration of a single Maya temple, with discussion of materials and methods of architectural construction; about half of the text deals with bas-relief carvings and mural paintings, and these account for 143 of the plates. A definitive report recommended to laymen whose interest has been aroused by more general reading, or who intend to visit the site.

MORLEY, SYLVANUS G. *Guide Book to the Ruins of Quirigua*. vii, 205 pages, 48 figures (map, drawings, photographs), topical bibliography, short glossary, key to pronunciation of place names. Carnegie Institution of Washington, Washington 1935 (Supplementary Publication No. 16)

Describes an easily visited early Maya site, famous for its still standing carved monuments; contains a chapter on the history and nature of ancient Maya civilization and another on Maya hieroglyphic writing and the calendar system.

BLOM, FRANS. *The Conquest of Yucatan*. xi, 238 pages, 31 plates, end-paper map, bibliography, index. Houghton Mifflin, Boston and New York 1936

About half of the text is history, and about half is reconstruction of ancient Maya life and culture, with more reliance on documentary than archaeological sources; included here for its valuable background material. A dozen titles in the fairly extensive bibliography are marked as "good popular reading."

THOMPSON, J. ERIC. *Civilization of the Mayas*. 105 pages, 14 plates, 11 figures, short bibliography. Field Museum of Natural History, Chicago 1942 (Leaflet No. 25, 4th edition)

A condensed account of ancient Maya history and culture.

MORLEY, SYLVANUS G. *The Ancient Maya*. xxxii, 520 pages, frontispiece, 95 plates, 57 figures, maps, charts, 12 tables, appendices on correlation of Maya and European dates and on Maya personal names, extensive topical bibliography, index. Stanford University Press, Stanford University, and Oxford University Press, London 1946

A broad reconstruction of ancient Maya history and culture, using archaeology as a main source of data, and non-archaeological materials to fill out the picture; the last great work of a great Mayanist; tends to overrate the role of the Maya in the development of Mesoamerican civilization; written for laymen without documentation, but a mine of information for students. Readers should note that the author's correlation of Maya "Old Empire" dates with Gregorian dates has not been proved beyond all doubt.

VON HAGEN, VICTOR W. *Maya Explorer: John Lloyd Stephens and the Lost Cities of Central America and Yucatan*. xviii, 324 pages, 36 plates, 2 maps, classified bibliography, index. University of Oklahoma Press, Norman 1947

Summarizes results of modern archaeology in general terms while giving an account of the life of a great pioneer archaeological explorer; recaptures something of the flavor of STEPHENS, 1841 and 1843 (see above), by quoting extensively. Good entertainment for the archaeologically-minded.

PROSKOURIAKOFF, TATIANA. *An Album of Maya Architecture*. Unnumbered pages, 73 bound leaves, in-

cluding introduction and 36 rendered restoration drawings of ancient Maya buildings and architectural groups by the author, and a map. Carnegie Institution of Washington, Washington n. d. (Publication No. 558)

The drawings are based on field work and research of the author and/or field data of excavators. Each plate is accompanied by explanatory text intended to make it meaningful to laymen, usually also by a line drawing showing how much of the structure in question was actually standing. The Introduction provides a thumbnail exposition of pre-Columbian Maya history, and recommends a number of works in English and Spanish dealing with Maya architecture in one way or another.

7. CENTRAL AMERICA AND THE ANTILLES

JOYCE, THOMAS A. *Central American and West Indian Archaeology*. 270 pages, 29 plates, 64 figures in text, 2 maps. Philip Lee Warner, London 1916

The standard, and only comprehensive, authority on the subject, but lacking, of course, the discoveries and developments of the last thirty years.

8. SOUTH AMERICA, GENERAL

JOYCE, THOMAS A. *South American Archaeology*. 292 pages, 27 plates, 37 text figures, 2 maps. Putnam, New York 1912

The standard authority for many years, but now rather out of date.

THOMPSON, J. ERIC S. *Archaeology of South America*. 160 pages, 12 plates, 18 text figures, map, bibliography. Field Museum of Natural History, Chicago 1936 (Anthropology Leaflet No. 33)

A brief readable sketch covering the archaeology of the continent.

STEWART, JULIAN H., Editor. *Handbook of South American Indians*. Volume 1: *The Marginal Tribes*. 624 pages, 112 plates, 69 text figures, 7 maps. 1946 Volume 2: *The Andean Civilizations*. 1035 pages, 192 plates, 100 text figures, 11 maps. 1946 Volume 3: *Tropical Forest Tribes*. 986 pages, 126 plates, 134 text figures, 8 maps. 1948 Volume 4: *The Circum-Caribbean Tribes*. 609 pages, 98 plates, 79 text figures, 11 maps. 1948 Volumes 5 and 6 will contain comprehensive topical studies; Volume 7 will be an index. Bureau of American Ethnology, Smithsonian Institution, Washington 1946—(Bulletin No. 143)

The up-to-date last-word studies by the best authorities on their regions and subjects. Each volume contains archaeological reports on the region; those in Volume 2 form a major, in Volume 3 a minor, percentage of the total. Volume 4 covers Central America south of the Maya, and the Antilles. Solid, sound, and meaty, but definitely not pastime reading.

9. THE ANDEAN REGION

PRESCOTT, WILLIAM H. *History of the Conquest of Peru*. New York 1847, many subsequent editions.

The old classic for the history of the Conquest, often reprinted.



South American Indian Culture: The Fortress of Sacsahuaman, near Cuzco, Peru. The horse gives an indication of the scale.

PRESCOTT's sketch of Inca culture and Peruvian prehistory, based mainly on colonial sources, would naturally be considerably modified by the researches of the last century.

SQUIER, EPHRAIM GEORGE. *Peru: Incidents of Travel and Exploration in the Land of the Incas*. 579 pages, many illustrations. Harper, New York 1877

The most famous of many popular books on travel in Peru, especially stressing the archaeology, and still the main source of information on some sites.

LEHMANN, WALTER, and HEINRICH DOERING. *The Art of Old Peru*. 68 pages, 128 large plates, 63 text illustrations, bibliography. E. Weyhe, New York 1924

An album of outstanding examples of architecture, and ceramic, textile, and other handicrafts. The text gives the background, not up to date, and overstressing Mexican and Central American resemblances.

MEANS, PHILIP AINSWORTH. *Ancient Civilizations of the Andes*. 586 pages, 223 text illustrations, bibliography. Charles Scribner's Sons, New York and London 1931

Still the classic. Beautifully written. Outdated, of course, as regards the prehistoric archaeological periods, but still the best popular work on the Incas.

BINGHAM, HIRAM. *Lost City of the Incas*. 263 pages, many illustrations. Duell, Sloan and Pearce, New York 1948

The discoverer of Machu Picchu describes and illustrates that extraordinary site. But archaeologists remain unconvinced of his identification of it with the legendary site of Inca origin. See also V. W. VON HAGEN's comments in *ARCHAEOLOGY* 2.1.42-46.

BENNETT, WENDELL C., and JUNIUS B. BIRD. *Andean Culture History*. 319 pages, 57 illustrations, bibliography. American Museum of Natural History, New York 1949 (Handbook Series, No. 15)

The latest word on the subject by outstanding authorities, containing the important results of the most recent excavations. Techniques are especially considered. Naturally it touches very lightly on the non-material phases of Inca culture, so strongly stressed in other works on this region.



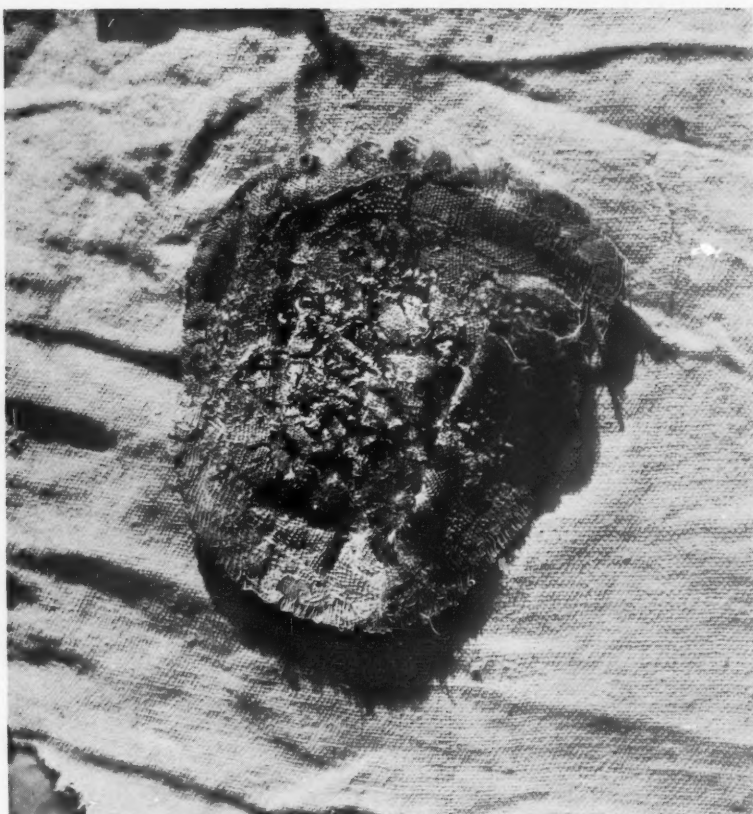


FIG. 1. Textile from Egypt, in the Textile Museum of the District of Columbia (T. M. 11.6), as excavated. Reproduction authorized by the Textile Museum.

Photo Woltz, Washington

ARCHAEOLOGICAL LAUNDERING

By Louisa Bellinger

Analyst-Curator, The Textile Museum of the District of Columbia, and Research Fellow in Textiles, Dumbarton Oaks Research Library and Collection.

ARCHAEOLOGY COMPRISES many minor fields of interest, some of which already have become separate sciences. Numismatists study coins and add bits of knowledge to the growing store. Scholars dealing with potsherds have made a sci-

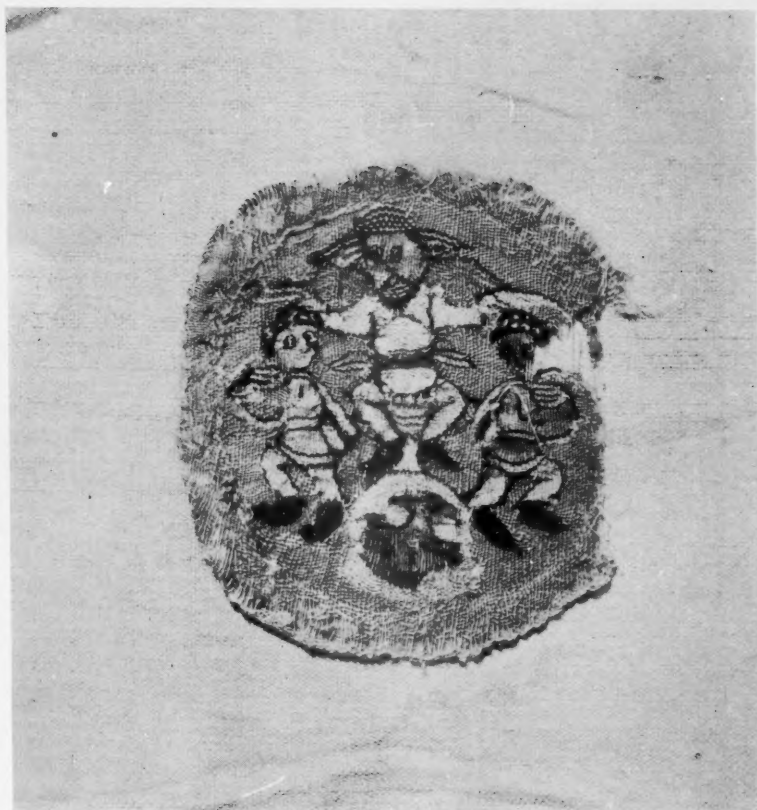
ence of ceramics. Both sciences are exact enough at present to be of aid in dating and locating other objects. So far, less study has been devoted to textiles from an archaeological standpoint than to more durable substances, for textiles are fragile and dis-

integrate easily in damp climates. In many places they are not found at all and if found are apt to be dirty. Few archaeologists are expert laundresses, that craft having been reserved heretofore as the final resort of humbler members of our social strata.

However, modern laundering is a science and archaeological laundering should be an art. The textile analyst must know his fibers, since a process good for cleaning wool may be ineffective with cotton, silk, or linen. Some types of wool are brittle, some are pliable. Each type needs its own handling. Vegetable fibers have preferential directions of spinning. When they are wet they rotate in that direction. If they are spun against their desires they tend to unwind in the wash tub. Therefore an analyst must know his spinning. Dyes may be fast or loose and the laundress must know how, and when, to set them. Finally, textiles are made by interweaving a weft or set of wefts at right angles to a set of warps which are held parallel and straight in a loom. There are many systems of putting in the wefts and most of them will, and do, pull out of line. All this the analyst must understand, for not until warps and wefts have been returned to their original positions can an art historian see the textile pattern

FIG. 2. Textile from Egypt, in the Textile Museum of the District of Columbia (T. M. 11.6), after being cleaned and blocked. Reproduction authorized by the Textile Museum.

Photo Woltz, Washington



correctly. As fibers, by and large, are more resilient when they are wet, and can be straightened out safely then, so as to set while they are drying, the archaeologist working with textiles should be a scientific laundress with knowledge not only of fibers, spinning and weaving, but she must also know about soaps, synthetic detergents, enzymes, dry cleaning preparations, and dye setting procedures and how to use them.

If archaeological laundering is treated as a science, textiles will begin to come into their own, and the people who deal with them technically may be able, as the science is built up, to add fascinating information to the general fund.

For example: FIGURE 1 shows a textile said to have been excavated in Egypt. In this state it is of little use to an art historian. Part of the pattern is folded under, part is covered with dirt. Both warps and wefts are out of line and the fabric is brittle and will crumble if handled roughly.

FIGURE 2 shows the same piece after laundering. First it was saturated with a warm concentrated solution of enzymes in distilled water to digest the dirt, then washed with a neutral synthetic detergent to remove the dirt, and finally given a little glycerine in the last rinse to sup-

ply the lubrication necessary to make the fibers pliable enough to be blocked while drying.*

It is now in proper shape for the art historian to study. The drawing, though perished in places, is aligned as the weaver executed it. The art historian will recognize the costumes and understand the significance of the elements in the pattern. He will know what influences were combined to make this design. But the analyst can tell him that the weaver was a wool weaver, that the wool fibers are too fine to have been shorn from flocks pastured at such a low altitude as Egypt, that the background wefts are spun in an un-Egyptian

manner and that linen, the typical Egyptian fiber, is used only for the faces of the figures and for the decoration of the border. In other words he will know that this particular textile, though mounted on Egyptian linen, was probably imported and was therefore a means of bringing this type of pattern into Egypt, rather than "Made in Egypt" even by a foreign weaver.

* This method of laundering is explained in detail in an illustrated pamphlet by FRANCINA S. GREENE, "Cleaning and Mounting Procedures for Wool Textiles," obtainable at the Textile Museum of the District of Columbia, 2320 "S" st., N.W., Washington 8, D. C.



Sakkarah, Egypt. Twenty-sixth-dynasty tomb of Ka-Nefer, as it appeared when first entered, intact and undisturbed. Note the low rock ceiling.

NEW FINDS AT SAKKARAH

A PICTURESQUE DISCOVERY OF UNOPENED tombs of the twenty-sixth dynasty (about 600 B.C.) was made in March, 1949, at Sakkarah by the Egyptian Antiquities Department. The work has been conducted under the direction of its chief architect, ABD-ES-SALAM HUSSEIN, a well-known figure in America who has recently been visiting this country in connection with his studies on the protection of ancient monuments against water.

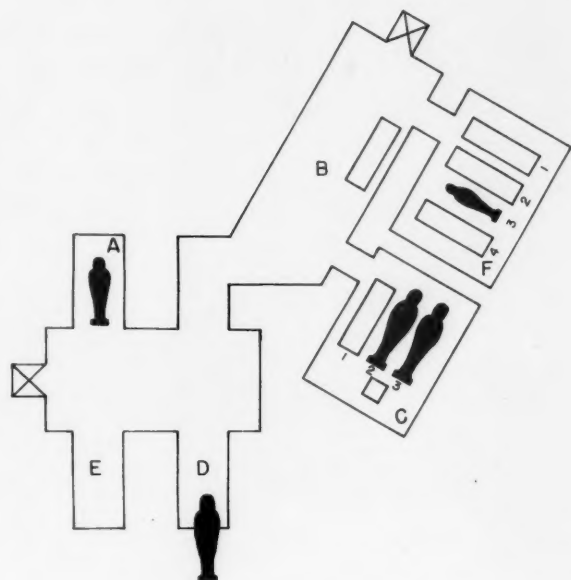
The tombs lie at the bottom of a small square shaft, 65 feet in depth. Halfway down the shaft, at what appeared to be the bottom, was an opened tomb, and the discovery of the fact that the shaft extended further into the rock was due to the vigilance of an Egyptian workman, who noticed small

grooves or toe holds at points where they could be of no value except for further descent. When the bottom was finally reached the tombs were found to be arranged around two vestibules, once connected, and later blocked by stone which has now been removed. Another shaft to the surface had also been blocked with stone.

The chambers contained a number of sarcophagi in cedar or sycamore, some of which were in the mummy form and others in box form with vaulted lid. Lying in the sandy ground were several hundred unusually beautiful and perfectly preserved light blue enamel statuettes, along with a number of small white porcelain cups for incense.

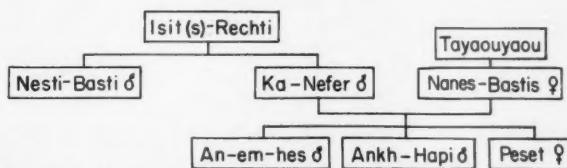
The examination of the intact remains of the

TOMB OF KA-NEFER AND FAMILY

TEMPLE SCRIBE OF 26th DYNASTY

- A Tadi-Imhotep daughter of Neith-iiti
- B Peset daughter of Nanes-Bastis
- C 1. Ankh-Hapi son of Ka-Nefer and of Nanes-Bastis
2. Nanes-Bastis daughter of Tayaouyaou
3. Ka-Nefer son of Isis-Rehti
- D An-em-hes son of Ka-nefer
- E ?
- F 1. ?
2. Nesti-Basti
3. ?
4. Ka-nefer son of Ta-amoun

FAMILY TREE



Sakkarah, Egypt. Schematic plan of the family tomb of Ka-Nefer, and family tree.

tomb was carried on with highly scientific care, under the direction of Professor ETIENNE DRIOTON, Director-General of the Egyptian Antiquities Department, the leading living authority in this field. A number of well-known Egyptian personalities were present, as also Rear Admiral CLARENCE J. BROWN (MC), U. S. N., of the Bureau of Medicine and Surgical Research Work. Special interest is given to the find by the collaboration of the United States Navy Medical Research Center of Cairo in the person of Commander ROBERT A. PHILLIPS, to whose skill we

owe the series of excellent photographs from which the pictures here presented were selected. Commander PHILLIPS also took a large number of photographs in color, including moving pictures.

The burials included two groups. One of these contained the sarcophagi of a scribe of the temple of Ptah, named Ka-Nefer, of his wife Nanes-Bastet, and of their son Ankh-Hapi. The other contained the anthropoid coffins of a priest called An-em-hes and a lady Tadi-Imhotep. A good deal of ceramic work was recovered, including magic bricks. The mummies were adorned with the



(Above) Tomb of Ka-Nefer at Sakkarah, Egypt. Opening of a mummy case. ABD-ES-SALAM HUSSEIN, chief architect of the Egyptian Antiquities Department, and his assistants, observed by Professor ETIENNE DRIOTON, Director-General of Antiquities, and Rear Admiral CLARENCE J. BROWN (MC), U. S. N., removing the gold inlaid linen mummy wrappings.

(Left) Rear Admiral BROWN and Commander ROBERT A. PHILLIPS (MC), U. S. N., examining a coffin and its contents from the tomb of Ka-Nefer.

ordinary ornaments of painted and stuccoed cloth, some of them having a gilt mask and a blue wig. The wrappings fell to dust when touched by the excavators. Excellent collections of the customary amulets of fine stones, blue enamel, and thin sheet gold were recovered from most of the mummies. The discovery provides useful information about intact burials and will considerably enrich the collections of the Egyptian Museum.

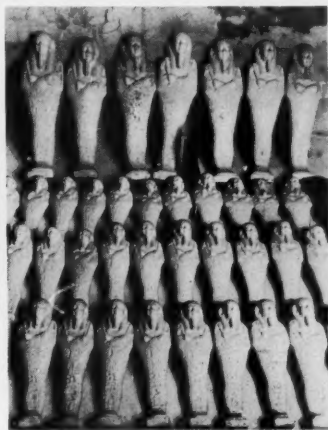
—JASPER Y. BRINTON

American Embassy, Cairo



(Above) Left to right, ABD-ES-SALAM HUSSEIN, Commander S. R. HOWELL of the Photographic Department, NAMRU-3, Commander R. A. PHILLIPS, Dr. AHMED M. EL-BATRAWI of the Department of Anatomy, Fouad I Medical School, Cairo (in white shirt), and Professor ETIENNE DRIOTON, examining a mummy from the tomb of Ka-Nefer, and the contents of its case.

(Below, left to right) Professor DRIOTON at work; a group of intact faience figurines from the tomb of Ka-Nefer; His Excellency M. ABDEL RAZEK EL-SANHOURY PACHA, President of the Egyptian Council of State, being lowered into the shaft leading to the tomb.





THE NEWPORT PUZZLE

By William S. Godfrey, Jr.

FIG. 1. The earliest known photograph of the "Newport Puzzle" was taken by APPLEBY WILLIAMS about 1855; this reproduction is from a print kindly furnished by JOHN HOWARD BENSON of Newport.

WHO BUILT THE OLD STONE MILL? IN 1677, ex-Governor BENEDICT ARNOLD willed it to his daughter, calling it "my Stone Built Wind-miln." In 1839, Professor CHARLES C. RAFFN published an "Account of an Ancient Structure in Newport, Rhode Island, the Vinland of the Scandinavians." Thus the lines were drawn for a literary battle which has been waged ever since.

Some, especially in Newport, are convinced that authorship as well as possession are implicit in ARNOLD's five-word description. Others, whom the protagonists of the Arnold Theory vigorously castigate as "Romantics" (unless they apply stronger epithets), follow Professor RAFFN and his more popular successor, HENRY WADSWORTH LONGFELLOW, in acclaiming the Viking Bold as the builder of this "lofty Bower." In recent years, the Irish (St. Brandon), the Welsh (Madoc ap Owain Gwynedd), and the Portuguese (Miguel Cortereal), have entered the lists, each with vigorous and vocal support.

Formal scientific investigation of the Old Stone Mill was sternly denied by the Newport City Fathers until last summer, when the Preservation Society of Newport County, backed by the scientific integrity and weight of the Society for Ameri-

can Archaeology, persuaded the Park Commission to permit judicious excavation in the vicinity of the structure to determine its origin. The late PHILIP A. MEANS gave any archaeologist only a fifty-fifty chance of solving the problem conclusively, but his odds may have been over-favorable; after two months of slow and cautious investigation, the identity of the builder of the structure is still not certain.

Inasmuch as there is much hope that the excavations will be continued, this is not the time for a definite statement. Much negative evidence, that bane of an archaeologist's existence, was uncovered and would, *faute de mieux*, lead to a questionably positive conclusion were nothing additional forthcoming. Those who wish to be wholly fair to the problem should accept last summer's work as inconclusive, and hope for more positive findings.

Having thus hedged my remarks with hope and laced them with question marks, I can begin by stating that no Viking objects turned up, nor anything which might have been dropped in the region before Colonial times. From that time to the present, the gradual change in our culture was clearly marked in the changing artifacts, as well as by the advancing dates on the coins which

had dropped from our forefathers' and fathers' pockets. Coins ranged from 1696 to 1946, glass bottles from hand-blown wine to modern whiskey, nails from hand-forged to machine-made wire, lighting equipment from carbon arcs to electric light sockets.

These finds are displayed in a stratigraphy which has been slightly altered by "unauthorized" archaeologists (see FIGURE 3). Starting from the surface, after the sod is removed, we encounter a layer of light grey clay, of unexpected origin: one of the major hazards within the tower is the flock of pigeons, who display remarkably accurate aim while roosting overhead. Their droppings had become so concentrated under the structure that the Park Superintendent removed nine inches of earth, a few years ago, replacing it with this light grey clay, in an attempt to neutralize the soil sufficiently to raise grass. Luckily, his excavation did not denude the whole

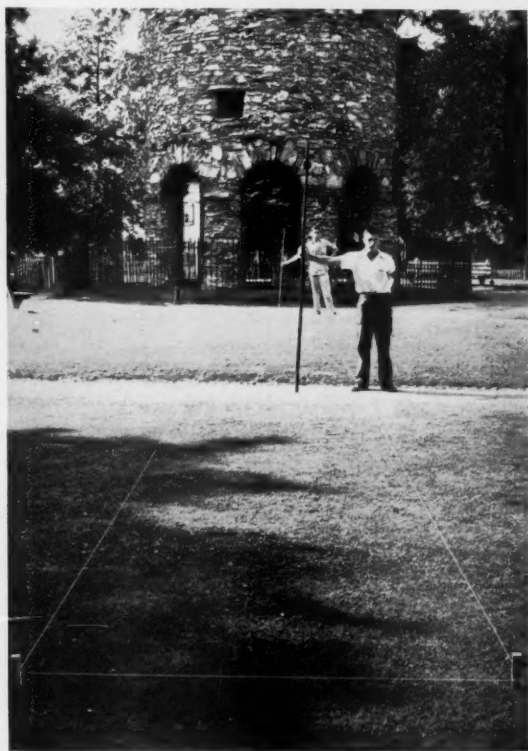


FIG. 2. The "Old Stone Mill" at Newport, Rhode Island, from the south-southeast, showing the proposed trench, neatly marked out with pegs and cord, before the 1948 excavation.



FIG. 3. The "Old Stone Mill" at Newport. The trench through the center of the tower at its maximum depth. The trench has been partially refilled in the background. Irregular foundation stones, supporting the north column, can be seen projecting from the trench wall at the lower left corner of the picture. The "Treasure Hunters'" pit appears in the center of the trench.

area, nor did it go deep enough to disturb the lower layers of deposit.

Even before his time, historically in the late 1700's, treasure-hunters dug a pit in the center of the tower, traditionally without finding the buried treasure. Still earlier, at an unknown date, smaller pits were dug near the columns in the line of our trench. Material in these pits appears continuous with and in no wise different from the general stratigraphical finds which we uncovered.

The only really important "excavation," that which must have been made to receive the footings of the columns, was identified with difficulty. The soil of Touro Park is underlain by two strata

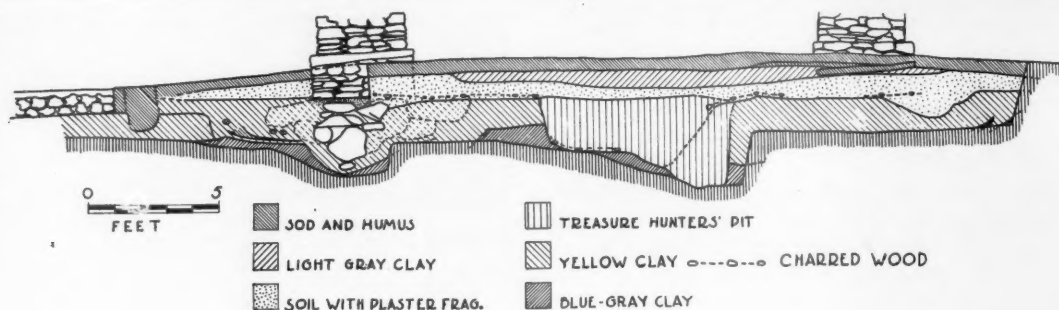


FIG. 4. The "Old Stone Mill" at Newport. Composite section of the 1948 excavation. Rough fill stones supporting the south column were only partly exposed, as indicated. The probable original floor level of the tower is marked by a rough plaster layer over this fill, on which the base of the tower was constructed.

of glacial clay, the lower a deep, blue-gray color, the upper a light yellow (FIGURE 4). The builders of the tower apparently found the blue-gray clay as hard to dig as we did, for they only sank their footings slightly into its surface, according to the base of the one column which we were able to investigate. The yellow clay with which they refilled their excavation blended again with the natural deposit in the area, obscuring the line of the edge of their trench. Unfortunately, the only objects which we found in this refilled area were fragments of plaster dropped by the builder and which were not dateable. Over this yellow clay, in direct contact with it, and rising to the surface of the ground where undisturbed, is a deposit of plaster fragments. This shows even in its lowest level, in which the earliest coins occur, smooth surfaces on the fragments, as if they had fallen from the tower, which was originally coated with a smooth plaster layer.

Within this layer of plaster, about one-half inch from the bottom, is an irregular stratum of charred wood. The stratum is neither thick nor continuous, and, while the direction of the grain in the wood can occasionally be detected, the timbers do not form a recognizable pattern. If this layer represents the debris of the wooden interior of the tower, either it must have been partially demolished before burning or much of the charred timbers was subsequently removed. Beam holes and slots for floor boards suggest that the timber of the structure was originally much greater than this charred material would indicate. Whatever its origin, the conflagration dates from

the eighteenth century, according to the associated artifacts.

To date the structure itself, from these deposits, presents a problem. The normal and almost inescapable conclusion is that the sequence of culture from early Colonial times represents the life span of the tower. However, there is the point which supports the contrary view: the earliest and lowest-lying plaster fragments appear to have fallen from the tower, and it is in the midst of this level of destruction that the earliest dateable finds occur. Equally curious is the absence of complete bottles, crockery, and the like, or fragments indicating anything like complete objects in the early levels. All the sherds recovered, except the recent ones, represent very small pieces of the original objects, more as if this had been, from earliest Colonial times, a dump. Among the finds were many animal bones, no whole animals, many showing signs of being the refuse from the slaughter. No skulls, long bones, or other normal meat joints of the animals were found. It might also be significant that these lowest levels of deposit contain brick fragments, yet no brick whatever was used in the construction of the tower, although no other usable building material (including some stones which were so soft that they have now almost completely disintegrated) was scorned.

This is neither the time nor the place to review the many other complications which can be (and have been) introduced into a discussion of this subject. There are the architectural arguments, which have yet to be settled, the interminable and

almost fruitless discussion about the quality and composition of the mortar, the problem of the earliest known picture, which shows the tower, in 1740, in about the same condition as it is today, the absence of any traveler's report until the late 1700's, and so forth.

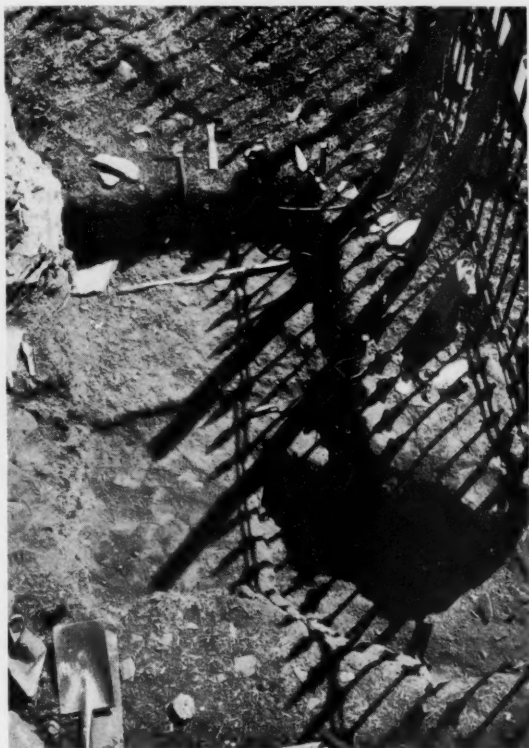


FIG. 5. The "Old Stone Mill" at Newport. Early stages of excavation at the base of the southeast column. One fill stone shows at the column base. At this point, earth containing plaster fragments (indicated in the section by stippled area) extends below the rough foundation stones.



FIG. 6. The "Old Stone Mill" at Newport. Typical finds of the late eighteenth century in position two feet north of the south column, three inches above the level of the charred wood fragments. The coin in the lower right of the picture is dated 1787.

With the many questions which are still unsolved, and the inconclusive nature of the findings of the past season, it would perhaps be wiser to leave the problem in abeyance until the further work is done. But the wiser thing is often the harder thing to do, and once the lure of speculation attracts, it is almost impossible to forget the conflicting arguments about the Old Stone Mill.

FURTHER READING: For those who are curious, and willing to expose themselves to the virus of unorthodoxy, the following books, both of which support the Viking Theory, are suggested. Both have good bibliographies: MEANS, PHILIP A., *Newport Tower*, Henry Holt, New York 1944; HOLAND, HJALMAR R., *America, 1355-1364*, Duell, Sloan & Pearce, New York 1946. Professor KEN-

NETH J. CONANT reviews them both in *Rhode Island History*, February, 1948, and Mr. HOLAND rebuts in the August 1948 issue of the same publication.

There is, unfortunately, no recent or comprehensive publication in favor of the Arnold Theory, although it is supported by the majority of reputable archaeologists.

HERCULANEUM AND POMPEII IN FRENCH LITERATURE OF THE EIGHTEENTH CENTURY

By Jean Seznec

This paper was delivered at the Pompeian Symposium held at Smith College, Northampton, Massachusetts, on November 19 and 20, 1948, to commemorate the two hundredth anniversary of the formal opening of the excavations at Pompeii by Charles III of Naples in 1748. Jean Seznec is Smith Professor of the French and Spanish Languages at Harvard University.

IN 1748, THE PARISIAN LITERARY GAZETTE *Les Nouvelles Littéraires*, published by ABBE RAYNAL, gave the following piece of news to its readers: "There has just been published a dissertation on a subterranean city recently discovered at the foot of Mount Vesuvius. . . . People who are curious are looking forward to great advantages which will come from that discovery; for they have already found there a theatre, several temples, houses, and streets; also paintings, mosaics, statues, medals, ritual instruments for sacrifices, lamps, and household utensils." The dissertation in question was a *Mémoire sur la ville souterraine découverte au bas du Mont Vésuve*, namely on the excavations which were being pursued at Herculaneum. "About all this," so ABBE RAYNAL continues, "I am like Catullus, that is, I write more than I am willing to believe. This would not be the first matter accepted universally in France, even in Europe, which might be found false. We Frenchmen are prone to exaggerate, and sometimes we invent."

This is the way the discovery of Herculaneum—for the site of Pompeii was not finally identified until 1764—was announced to the French public. It was a queer way, to say the least, to break such a sensational piece of news. But the way it was reported in the *Encyclopédie*, some ten years later, is no less intriguing. "For nearly ten years," wrote the CHEVALIER DE JAUCOURT, author of an enthusiastic article on Herculaneum and a brief notice on Pompeii, "people have been talking with admiration about this discovery. All those who cultivate the letters, sciences, and arts are interested in it: a city buried for more than sixteen hundred years, and restored in some degree to light, has without doubt something to awaken even the most extreme indifference. . . ."

So, while the first of these two texts seems to register the scepticism with which the great

news was received, the second suggests that such scepticism was followed by a lasting indifference on the part of those who should have been the most interested in it. These reactions, of course, are contrary to general expectations; they point out the necessity of proceeding with great circumspection in trying to detect and to define the literary consequences of the discovery of Herculaneum and Pompeii. In order to make the enquiry more precise, one has to restrict its scope. I have decided, therefore, to limit myself to French literature before the Revolution, with the idea that within these bounds the results have a chance of being pretty definite.

And indeed they are definite. But they are very far from being positive. The shocking fact is that the influence of Herculaneum and Pompeii on French literature in the period that immediately followed their discovery is non-existent. This is a deplorable state of affairs; but, after all, negative results can be just as instructive as positive ones, if only one knows how to interpret them; and by looking at the reasons why Herculaneum and Pompeii failed to influence French literature, we may be able to learn something about the conditions of a classical revival.

That such a revival of antiquity took place in eighteenth-century France is a certain fact. But that Herculaneum and Pompeii played a major or decisive part in it remains to be seen. Here, I think, we are apt to be deceived by the perspective. The date of 1748 is a fatal date, in the sense that it seems to divide the century very neatly into two halves for the convenience of literary historians. In the first half, the interest and feeling for antiquity are asleep; then, suddenly, come the great discoveries, which shake the world, and the Sleeping Beauty awakes. Things are not that simple, nor that clear. We seem to forget that there had been archaeologists, and ex-

cavations, before 1748. It will be enough to recall the names of MONTFAUCON, of MAFFEI, of BIANCHINI, whose discoveries on the Palatine were eulogized by FONTENELLE in 1726, not to speak of the discoveries in the Villa Hadriana. After all, as FOCILLON said pleasantly in his *Piranesi*, not all the scholars of the time were gathered around Vesuvius, and Herculaneum and Pompeii were not quite the "coup de théâtre" which we imagine them to have been.

Still, they had a dramatic side which should have appealed to the general interest more than any other discovery. But here we must remember under what circumstances and through what intermediaries the two dead cities became known to the public. First, there were the travelers, among them MARIGNY, LE BLANC, and COCHIN, who visited the ruins in 1750. But what did they see? What were they allowed to see? Practically every visitor complained about the regulations which prevented them from having access to the excavations. As early as 1739, DE BROSSES complained about Herculaneum; WINCKELMANN himself required royal permission to be shown "all that was allowed to be seen." BARTHELEMY wrote to a friend concerning Herculaneum that "an impenetrable mystery reigns over all these operations." PACIAUDI was not permitted to make any sketches at Herculaneum, and that went for the Museum of Portici as well, as GOETHE and TISCHBEIN learned to their disappointment in 1787. One could not even take any notes there, at least until 1775 and then only under the supervision of a guardian.

WHAT ABOUT THE PEOPLE BACK HOME?

Whatever information they got came first from the travelers, whose letters were necessarily sketchy; then from the printed reports, most of which gave a superficial account of the findings with only approximate illustrations. Indeed, COCHIN declared in 1754 that all Europe was still kept hungry for details. Only in 1757 did CHARLES III authorize an "official" publication, *Le antichità di Ercolano*. That publication, however, was not at first a commercial one; it was earmarked for the happy few like BARTHELEMY, and in 1758 even WINCKELMANN had to make a plea to get the first volume. Moreover, the last one did not appear until 1792 and at that time the excavations had been abandoned. The objects, it is true, had long been gathered in the Museum

of Portici, where the most important of them were already to be seen about 1765. Of that museum, GOETHE said in 1787 that "it is the alpha and omega of all collections of antiquities; there one sees clearly how far ahead the ancient world was in a joyous artistic taste, even though equally it lagged far behind us in strictly handicraft skill."

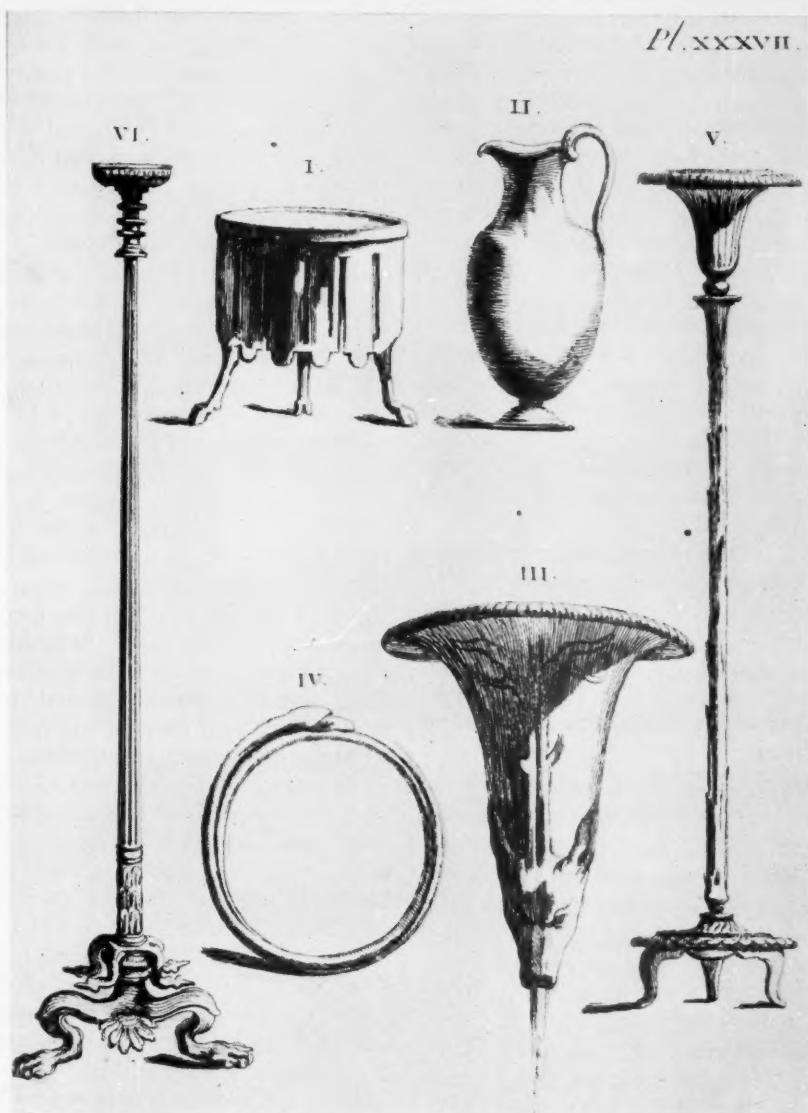
One has to bear in mind the difficulties and the delays which kept the French, among others, from becoming directly and completely acquainted with these treasures. They are not sufficient, however, to explain why Herculaneum and Pompeii seem to be so absent from the thought and imagination of French writers, for there were some Frenchmen who were not discouraged by these obstacles, and who were trying increasingly and passionately to snatch every bit of information about what was going on at the foot of Vesuvius.

There was CAYLUS, for instance, who from Paris was watching the progress of the excavations, keeping in touch with BARTHELEMY and PACIAUDI, who were on the spot, and who even succeeded, through their complicity, in smuggling some objects out of Italy to have them reproduced in his own *Recueil d'Antiquités* (FIGURES 1 and 2). Yes, but CAYLUS and his like were not men of letters; they were scholars, they were antiquarians. And that is the point; between men of letters and archaeologists, there was no communication during the eighteenth century; there was a complete divorce between them; there was even mutual hostility. The Académie Française and the Académie des Inscriptions were not on speaking terms.

VOLTAIRE in his fabulous correspondence does not seem to have conceded one letter, one line to Herculaneum and Pompeii. MONTESQUIEU, the same MONTESQUIEU who wrote *De la grandeur des Romains et de leur décadence*, teased his friend DE GUASCO, who had been making excavations in Piedmont, on the fact that "in a new Herculaneum . . . after scraping the earth for a week, you found a bronze grasshopper. So you traveled two hundred leagues to find a grasshopper! You are all charlatans, MM. les antiquaires"—that is MONTESQUIEU's conclusion. Later he wrote to the same friend: "You pride yourself on sometimes being an antiquarian . . . as for me, who am no antiquarian . . ."

But DIDEROT's attitude is the most illuminating.





FIGS. 1 and 2. Objects from Herculaneum engraved in the third volume of CAYLUS, *Recueil d'antiquités* (Paris 1759). In Plate XXXVI, No. 5 came from Rome. CAYLUS remarks (page 140) that "the figures of this plate add to their own merit the pleasure of a difficulty overcome, that is to say, that of having been found at Herculaneum and, in consequence, stolen from under the strict vigilance which watches over this rich treasure."

Of Plate XXXVII, after praising the publication of the first volume of *Le antichità di Ercolano* in 1757, he says (page 143) "the fear of causing harm to the skillful artist who got me these drawings obliges me to conceal his name, for Antiquity at Naples is a matter of State."

In 1769, DIDEROT had to review, in GRIMM's *Correspondance Littéraire*, the work of a man called FOUGEROUX, author of some *Recherches sur les*

ruines d'Herculanum. This is how he goes about it: "MONSIEUR FOUGEROUX, you have written a pretty bad book; and how could you have done a

better one, without any taste for the fine arts and without any deep knowledge of antiquity? Do you know, my friend, what you have given us? A very imperfect and very dry catalogue of the different objects which have been dug from the excavations of Herculaneum." Whereupon DIDEROT gives us, in turn, an enumeration of objects which is obviously intended to be ludicrous. Then he concludes, addressing himself, this time, to his friend GRIMM: "My friend, if we ever make that trip to Italy about which we have dreamed so much, I swear to you that we shall not reserve any room in our trunk for MONSIEUR FOUGEROUX. That fellow is amazed that the ancients had basins, spoons, forks; in a word, that having the same needs, they had invented the same utensils to meet those needs. I wonder why he does not express his surprise at the fact that the ancients had mouths and bottoms?"

Needless to say, DIDEROT would not miss any occasion to poke fun at CAYLUS, for instance when CAYLUS claimed to have found again the secret of the ancient technique of wax painting. Even when CAYLUS died in 1765, after having asked that his remains be placed in an Etruscan vase, DIDEROT could not help writing this malicious and cacophonous epitaph:

"Ci-gît un antiquaire acariâtre et brusque;

Ah! qu'il est bien logé dans cette cruche étrusque!"

In a note to DIDEROT's *Salon* of this same year 1765, GRIMM, it is true, spoke politely, if not too seriously, of "ce charmant enthousiaste WINCKELMANN." But then, WINCKELMANN had friends and allies among the D'HOLBACH coterie, that is, among DIDEROT's own friends, particularly GRIMM himself and the delightful ABBE GALIANI, a member of the Accademia Ercolanense. Also, WINCKELMANN was an esthetician, and a sentimental esthetician, that was a good point. He was an archaeologist, yes, but "un archéologue sensible." Generally speaking, DIDEROT's attitude towards the "antiquaires," or the "anticomanes" as he rather called them, was one of absolute scorn.

What is the reason behind this attitude? It is simply that men of letters made a sharp distinction between "l'antiquité" and "les antiquités." "L'antiquité" was the great classical tradition, as derived from Homer, Virgil, and the other ancient authors; they, the literary people, were the inheritors and the true representatives of that tradition. "Les antiquités," that was just pots and pans,

broken vases, and such trifles, of which GARRICK remarked in the prologue to his *Taste*:

"I ne'er for trinkets rack my pericranium;

They furnish out my rooms from Herculaneum."

But the people who collected them—remember MONSIEUR FOUGEROUX—had no real humanistic feeling; they were pedants and maniacs who, in DIDEROT's gibe, looked at antiquity "avec les petites bécicles de l'anticomanie."

This was the root of the misunderstanding. Consequently, the findings of the archaeologists circulated only among themselves, in a sort of closed circle. The literary men ignored them, for the most part. It is surprising, however, that DIDEROT, of all people, should have been blinded by that prejudice. How did he fail to realize that, after all, what the archaeologists were doing at Herculaneum and Pompeii was what he was trying to achieve himself in his *Encyclopédie*; to take stock of all the material equipment of civilization at a certain period of history? Look at the plates of the *Encyclopédie*; here are the tools and the implements, the vases, the lamps, the furniture, even the paintings and the bronzes of the eighteenth century. DIDEROT himself took great pains to have each of them properly reproduced and described in the most accurate detail. To us, today, all this looks very much like a collection of antiquities; and indeed it is just as valuable to serve to reconstruct an already remote past. But apparently DIDEROT was not interested in the industrial art of any century but his own. Although the *Encyclopédie* was started in 1750 and completed in 1772, the few archaeological articles which are to be found in it were copied from old MONTFAUCON's *Antiquité expliquée*, published in 1719, or, as the editors themselves confess in the preface to the third volume, from BENJAMIN HEDERICH's German *Antiquitäten-Lexicon* of 1748. No effort was made to keep up with the progress of scholarship or to include any of the new material provided by recent discoveries and made available after 1757 in the successive volumes of *Le antichità di Ercolano*.

However, this familiar antiquity which failed to attract the attention of the writers did excite the curiosity of the laymen, as testified by fashion. In 1763, GRIMM wrote sarcastically that in Paris everything was "à la grecque." In a comedy produced in the following year, we find this couplet:

"La mode est pour le grec; nos meubles, nos bijoux,
Etoffes, coiffure, équipage,

FIG. 3. Engraving of a painting from Herculaneum, Plate seven in the third volume of "Le Pitture" in *Le antichità di Ercolano* (Naples 1762).



FIG. 4. VIEN's "La Marchande a la toilette," exhibited in the Salon of 1763 and now at Fontainebleau as "Marchande d'amours." Reproduced from a discussion of these two works by MARIO PRAZ in an article on "Herculaneum and European Taste" in the *Magazine of Art* 32 (December 1939) 684-693.



Tout est grec . . ."

That Greek or pseudo-Greek came from Herculanum and Pompeii is a point which I will not discuss, since we are not concerned here with decorative art. But the plot of the comedy itself is worth remark.

The author is BARTE and the title *L'Amateur*. The amateur is a young man who has the mania for antiquities and dreams of nothing else. His father wants to marry him to a charming girl, but he will not even look at women. So the father of the young girl has an idea; he has a bust of her made and sold to the young man as a piece of ancient sculpture, which has just been discovered. The young man immediately falls in love with the statue, and declares that he will never love any woman but this piece of marble. Whereupon the young girl is introduced to him. He looks at her in amazement and ecstasy and exclaims: "C'est ma statue." DIDEROT, who liked BARTE, must have been very pleased with this satire on the "anticomanes."

All this seems to indicate a general infatuation among the public, but after all nothing very serious nor durable, rather a passing fancy like the taste for "chinoiseries." This worldly and one might say frivolous influence of Herculanum and Pompeii is not negligible, however, because by exploiting in everyday life the small, concrete details revealed by the archaeologists, the hairdresser and the jeweler refreshed antiquity; they made it vivid and actual, something which the archaeologists themselves with their ponderous dissertations would not have been able to achieve.

But again, where is that fashion expressed in literature? One could list a few neo-Greek novels after the manner of *Daphnis and Chloe*; there is an illusion to a Pompeian lamp in a novel by the MARQUIS DE SADE, but it should not count as a literary allusion. Finally there is a series of pale, very pale tragedies "à la grecque" which followed the publication of BRUMOY's *Théâtre des Grecs* in 1730. But, characteristically, the most interest-

ing aspect of this tentative revival is the exterior, the material one. What little novelties there are in these "Hellenic" dramas concern the mimicry, the costume, the stage setting; there again the "décorateur" has perceived the resources offered to him by the archaeologists; CAYLUS and WINCKELMANN have become the auxiliaries of the producer.

THERE ARE, HOWEVER, TWO brilliant exceptions; two writers who at last represent a real Hellenic revival in literature. They both shine at the end of the period which we are considering. The first one is ANDRE CHENIER. CHENIER, half Greek himself, does recapture in his most beautiful fragments the epic greatness or the bucolic grace, and there is no doubt that his inspiration was partly archaeological, modeled upon "ces formes grecques," as he puts it, "que les médailles, les sculptures, les peintures antiques nous ont transmises avec certitude." But did these models come from Herculanum or from Pompeii? Actually we know that CHENIER used the illustrations in SPANHEIM's *Callimaque*, which date from the seventeenth century, and in GORI's *Museum Etruscum*, published between 1737 and 1743. He must have consulted CAYLUS and the great archaeological publications, but this cannot be demonstrated, except for WINCKELMANN. There is, in the latter's *Monumenti Antichi*, published in 1767, a plate based on a painting from the Baths of Titus in Rome and representing Minerva throwing away her flute. CHENIER described this scene in a bucolic fragment. In fact, however, the main sources of CHENIER were literary: Homer, and the Alexandrine poets whom he read in BRUNCK's *Analecta Veterum Poetarum Graecorum*. Still, it can be argued that CHENIER's poetry was influenced by Herculanum and Pompeii; but that influence was an indirect one; it came through contemporary art. It came through DAVID, whose studio CHENIER frequented; it came through the Louis XVI style which on the eve of the Revolution had borrowed

FIGS. 5 and 6. Pompeii as seen by travellers at the end of the eighteenth century: the road to Herculanum, just inside the city gate, and the Temple of Isis, engraved as Plates 73 (page 112) and 74 (page 115) in the second part of the first volume of ST. NON, *Voyage pittoresque ou description des royaumes de Naples et de Sicile* (Paris 1782). The Temple of Isis is reproduced opposite page 80 of L. HAUTECOEUR, *Rome et la renaissance de l'antique à la fin du XVIII^e siècle* (Paris 1912). ST. NON says in his preface (page xiii) that his illustration of Herculanum at the head of page 3 is an absolute invention, because the only access to the ruins was by tunnels which were filled up as soon as the remains had been studied or removed.



*Vue de l'Entrée de Pompeii et de la Rue principale de cette ancienne Ville située près du Volcane
 et détruite ainsi que Herculaneum, dans la fameuse Eruption de ce Volcan en l'An 79. la nuit du 24 au 25 Aout* A.P.D.R.



Vue du Temple d'Isis à Pompeii dans l'état où il est actuellement

Dessiné par Prospero Archibugi et Gravé par Ricci à Rome, en 1774.

A.P.D.R.

and combined Pompeian motifs. The plastic and decorative elements in CHENIER's poems, the attitudes and the accessories, these were largely borrowed not from the archaeologists but from the painter and the decorator.

The case of CHENIER, then, suggests that as far as literature is concerned the influence of Herculaneum and Pompeii was a secondary one. It made itself felt through the medium of art. We find the most striking confirmation of this in DIDEROT. The same DIDEROT who cursed the archaeologists was delighted to find in the Salon of 1763 a picture by VIEN entitled *La Marchande à la toilette* and showing a girl selling cupids to a lady in her boudoir. This, as the catalogue explained, "had been executed from the description of a painting found in Herculaneum" (FIGURES 3 and 4). DIDEROT went off with enthusiasm and exclaimed: "how all this breathes the ancient manner . . . here are so many madrigals from the Anthology put in color. The artist is an Apelles resuscitated amid a troop of Athenian maidens." So DIDEROT did not care for antiquities as unearthed at the foot of Vesuvius, but he enjoyed them as transposed by VIEN. In a word, the literary influence of Herculaneum and Pompeii is the reflection of a reflection.

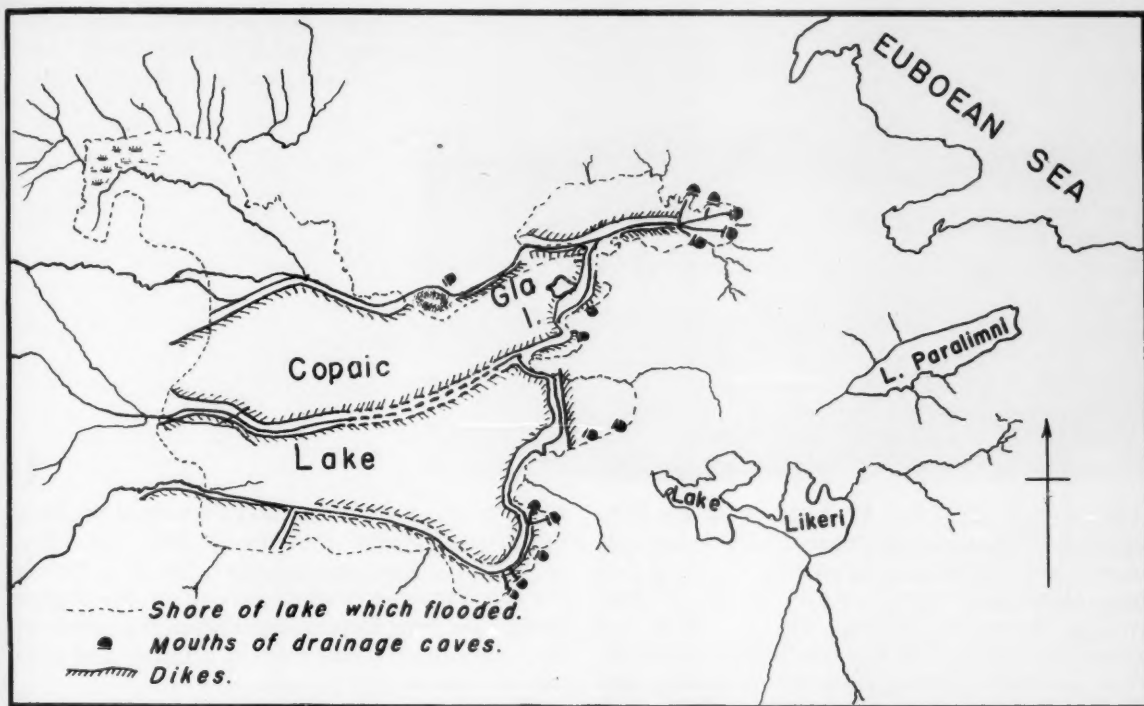
The other great exponent of Hellenism was the ABBE BARTHELEMY. We know him already as an archaeologist; in fact he worked for a month at Portici in the winter of 1756. But he played a major role in literature; indeed he was the one to reconcile the two fields. In 1788 appeared his *Voyage du jeune Anacharsis en Grèce*. There had already been a *Voyage pittoresque en Grèce* by CHOISEUL-GOUFFIER in 1782. But *Anacharsis* is a novel, a didactic novel in which a young Scythian philosopher travels through the Greek world in the middle of the fourth century B.C., which of course provides a convenient framework for describing every aspect of Greek life.

This seems very far from Herculaneum and Pompeii, both in space and time. But actually, BARTHELEMY used that intimate knowledge of antiquity which he had acquired among the objects from Herculaneum and Pompeii displayed at Portici to make it come alive in his novel, in the most concrete detail. Now the influence of *Anacharsis* was prodigious during the Revolution, and long after it. An amusing example is the famous dinner given in 1790 by MADAME VIGEE-LEBRUN, where everything was Greek: the wares,

the recipes, the raisins, the wine, and where all the guests were costumed "à l'antique," including the poet LEBRUN, disguised as PINDAR. This of course is fashion again; but it has now become universal, and it has gone much deeper than a fashion; in 1790, DAVID was already the dictator of art.

If we now try to formulate some conclusion, we should recognize that the literary influence of Herculaneum and Pompeii was, at first, negligible, and that, even when it made itself felt, it did so indirectly, through art and through fashion. Still, however thin and elusive, the influence has to be reckoned with, even in the field of literature, as an element in the ensemble. Its real importance and significance come from the fact that other influences, complex and powerful, were at work at the same time to bring about a classical revival. Curiously enough, the most influential figures were a Swiss Theocritus and a Swiss Plutarch: GESSNER, whose pastorals were translated into French in 1760, and JEAN-JACQUES ROUSSEAU, who preached republican virtue, hero worship, and Spartan Puritanism. These two confluent streams, the idyllic one and the Stoic one, were to absorb the Pompeian spring. The neo-antique style resulted from the blending of the moral with the decorative.

If one could follow the literary history of Herculaneum and Pompeii beyond the turn of the century, it would become less disappointing (FIGURES 5 and 6). Then we would meet great romantic figures in pilgrimage to the dead cities: CHATEAUBRIAND, one of the most passionate and intelligent visitors, who claimed that one could learn more about ancient civilization while walking through Pompeii than by reading all the books of the ancients, if only—and here he anticipated the archaeologists by nearly a century—all the furniture were left on the spot instead of being transported to the museum; CHATEAUBRIAND, who dreams magnificently on the hair of a young woman, fragile and touching remains which have survived the destruction of the Roman Empire. Later, the young FLAUBERT sent from Pompeii to his friend BOUILHET some flowers which he had plucked among the ruins; on the same day he wrote to another friend: that though he may appear rather rough, "there is a crust which has crystallized around my heart; but you must do as in Herculaneum; dig away the lava and you will find the paintings still fresh."



Map of the Copaic Basin, in Boeotia. Adapted from FRAZER by ROBERT ROHRER.

LOST ATLANTIS FOUND AGAIN?

By Robert L. Scranton

TO PROPOSE TO TREAT SERIOUSLY, IN SCIENTIFIC or scholarly circles, the possibility that there is a factual historical basis for the Platonic myth of Atlantis, requires some temerity; and yet I believe that there is sufficient force of coincidence to justify the hypothesis that the physical concept of Atlantis as described by Plato reflects an otherwise forgotten tradition of prehistoric conditions in the Copaic basin of Boeotia which may in fact have been known to Solon and handed down in the family of Critias.

In the exploration of this hypothesis we must recognize that a tradition a thousand years old will have lost many significant and insignificant details, and gained others. Therefore only the most broadly essential points can have any validity in the argument.

In reviewing the account of Atlantis in Plato's *Timaeus* (20E-21D; 24E-25D) and *Critias* (108E; 113C-120D), the broadly essential points are

these. At an incredibly early period, there existed far to the west (in the Atlantic Ocean) a powerful and wealthy race ruled by children of Poseidon, of whom the most powerful was Atlas, who gave his name to the land and its people. The land was strikingly characterized by its elaborate waterworks: the chief city was on an island artificially formed in the principal plain of the land, and the plain was protected by a tremendous moat or dike around its edge, which collected all the water flowing in from the surrounding mountains and led it around the plain to the sea. The people were devoted to the worship of Poseidon, in a cult with some significant details to be mentioned below. In the end, the entire land and all its people were engulfed by the waters and disappeared from the ken of man.

Of these points the most remarkable are embodied in the physical facts of the Copaic Basin.



View across the Copaic Basin, Boeotia, as seen from the citadel of Gla.

The basin is described by FRAZER, in his comments on Pausanias' description of Boeotia. It is well known that this basin was at one period most elaborately organized with devices for controlling the waters flowing into it. Dikes led around the edges of the basin, collecting the waters from the rivers flowing from the mountains, and discharging them through half-natural, half-artificial tunnels to the sea. The low-lying plain protected by these dikes was crossed with at least one great canal which collected the ground and surface water, and controlled irrigation (FRAZER's plan illustrates another theory that one river was carried through the center of the plain between dikes). Various towns, of which the most important was Gla, lay on small hills around the plain—hills some of which must have been islands before the drainage system was perfected. The scale of these works shows that they belonged to a powerful and prosperous race. Finally, however, the whole culture was wiped out by actual drowning, when the caverns draining the area were closed by accident or lack of care, and the dikes and canals fell into disrepair, so that the whole area became a marsh or intermittent lake.

These basic facts are as nearly identical with Plato's description as could be expected under the circumstances; the greatest discrepancy is the fact that Atlantis, according to Plato, lay far to the west, while the Copaic basin is in the midst of Greece. Here, however, an internal discrepancy in the story suggests what might also be a reasonable inference—that the scene had been shifted in transmission. The Platonic Atlantes waged war with the Athenians, and if there is any

basis for this part of the story they could not have lived too far away. Admittedly this is not a fact on which to base an argument, but it is clearly possible that the original setting of the legend could have been Copais, and that in the course of the transmission of the tale the geographical position was moved.

The Platonic story puts the *floruit* of Atlantis earlier than 9000 B.C.; this can only be a fictitious figure, in character with the account of the territories ruled by the people and the smaller details of their realm. It must, however, mean "a long time ago," or a prehistoric period. The actual date of the Copaic drainage system is unknown, but there is no definite record or reason to place it in any historical period. A reference in Strabo (9.18.407), usually considered to refer to an attempt to repair the system under Alexander, might be thought to refer to the original construction, but, like FRAZER, we may reasonably reject this view. On the other hand, the area was proverbially wealthy in the "Minyan" period, presumably at least as early as the Mycenaean age, strictly speaking. Some details of the cult of Poseidon, such as the cult pillar where bulls were sacrificed and the bull hunts with staves and nooses, are peculiar and have already been counted sufficient evidence to associate the tale with the Minoans, some elements of whose culture must have penetrated to pre-Mycenaean Greece.

In short, viewed in its broader outlines, as it must be, the characteristics of the Platonic Atlantis agree remarkably with those of the Copaic culture. The theory that the germ of Plato's Atlantis was a tradition of the Copaic civilization is much more

Another view of the Copaic Basin from Gla. In the foreground are remains of walls of the Bronze-Age palace.



possible and reasonable than other identifications—America, North Africa, a lost Atlantic continent, Tartessus in Spain, Crete—based on various coincidences. It is infinitely more plausible than any of the theories which put Atlantis at a great distance, for the probabilities of a tradition of such a region persisting in Athens at all are slight; and it is superior to the identification of Atlantis with Minoan Crete because there were clear traditions of Crete itself in the Greek world, and the physical conditions of Copais are more specifically applicable.

There is really only one loose end; namely, the fact that Plato's story gives no overt hint of any connection with Boeotia. It is a fact, however, that Atlas himself has close associations with Boeotia, independent of Plato. Apart from Arcadia, Boeotia was the only place in the Greek motherland where Atlas was at home. He was a son of Poseidon and Kleito, who was a daughter of Evenor and Leucippe, who was a daughter of Minyas, whose connection with Boeotia is well known. Atlas had a daughter Alkyone, who married Poseidon and had two sons, Hyrieus and Anthas, and a daughter Aithousa, who had a son Eleuther. Hyrieus was ancestor of Hyriæ in Boeotia and had two sons Lykes and Nykteus, Theban heroes; Anthas was ancestor of Anthe-don, and Eleuther of Eleutherae, both towns in Boeotia. Atlas had another daughter, Calypso, who in the *Odyssey* lives on a mythical island in the distant seas, called Ogygia, which is also the early name for Boeotia and Thebes (Pausanias 9.5.1). Atlas also married, according to another story, Aithra, and they had a son Hyas who gave

his name to an early Boeotian people. Finally, apparently the only even quasi-cult place of Atlas in mainland Greece was near Tanagra on a hill called Polos (Pausanias 9.20.3). In short, there are ample recorded associations of Atlas with the Boeotian area. Indeed, an exhaustive examination of Atlas and Atlantis in all their relations could produce a considerably larger number of associations—some to be sure, more tenuous than the above—but in view of the conditions their enumeration is scarcely profitable, for the above will establish the basic fact, and the more remote ramifications are hardly proofs.

One of these more tenuous speculations, but one which is perhaps not wholly out of place in this discussion, is the relation of the Atlantians to the Amazons. Diodorus (3.52-55) gives the history of a race of Amazons who lived in North Africa. They are not, he specifically states, the commonly known Amazons who lived by the Thermodon in Pontus (Diodorus 2.44-46), but they lived on a marsh Tritonis and a river Triton between Ethiopia and the Atlas mountains. Diodorus describes numerous conquests of these Amazons in Africa and Asia, among others over the "Atlantians" or residents around the Atlas mountains. Now, this story must certainly, in so far as it is presented in terms of figures of Greek mythology, be an adaptation localizing the Amazons of Greek tradition in Africa, for reasons which are probably beyond complete elucidation. It may be no more than a curious coincidence, but it certainly is that, that there is a river Thermodon in Boeotia (Pausanias 9.19.3) and a river Triton in Boeotia (Pausanias 9.33.7). This coincidence sug-

gests the possibility that both Pontian and African Amazons derive ultimately from a Boeotian original, who, later, in one tradition were moved to Pontus, and in another tradition went to Africa—preceded, accompanied, or followed by the Boeotian Atlantians.

There is no inherent improbability, then, in a legend of Atlas in the environment of the Copaic drainage complex and its civilization; nor is there any difficulty in believing that it could have survived until the time of Solon, and thence into that of Plato. Even apart from the Mycenaean and pre-Mycenaean legends surviving in literary tradition, the accounts of Minoan and Mycenaean history in the first book of Thucydides demonstrate the possibility of this. The chief problem, already touched upon, remains how the locale of the region was transferred from Boeotia to the undefined west. Actually, as we have seen, this is no real difficulty, for it would be wholly natural for the people of the Greek dark ages to push a tradition of remote glory to a position remote in place, as the concept of Atlas support-

ing the heavens may have been pushed from Arcadia to Africa, or the Ogygian residence of Calypso transferred from Thebes to an unknown sea. It is also possible, so far as known evidence goes, and indeed perhaps more probable, that the transfer was made by Plato himself.

There is one final problem to be considered: If there had been such a legend of Atlantean Copais, how is it that we know of it only from Plato? This difficulty is made to seem more formidable than it really is by the fame of Plato's treatment of the story. As handed down in Critias' family and told to Plato, it may have consisted only of a few brief sentences, like the multitude of allusions we find, each reported only once, in stray scholia or mythographers, or literature in general. There must have been many such fragmentary legends which have not survived at all. The greatness of the Atlantis story is in Plato's telling and in his fictitious and philosophic embellishments of the theme. The skeleton tradition might easily have perished like a host of others, but that by chance it was saved, glorified, and made eternal by the imagination of Plato.

ARCHAEOLOGICAL NEWS

Iowa Society

The IOWA SOCIETY of the ARCHAEOLOGICAL INSTITUTE of AMERICA was founded on February 22, 1949, at a meeting at the Iowa City residence of Dean and Mrs. CARLYLE JACOBSEN of the State University of Iowa. The following officers were elected:

President, GERALD F. ELSE,
Vice-President, E. T. PETERSON,
Secretary-Treasurer,
JOHN C. MCGALLIARD.

Iowa Members and subscribers who would like to join the new Society may address the secretary-treasurer, Professor MCGALLIARD, at the State University of Iowa, Iowa City, Iowa.

†William Nickerson Bates

WILLIAM NICKERSON BATES, Professor Emeritus of Greek at the Uni-

versity of Pennsylvania, a Harvard graduate, a lifelong Member of the ARCHAEOLOGICAL INSTITUTE of AMERICA and one of its incorporators, a former editor-in-chief of the AMERICAN JOURNAL of ARCHAEOLOGY, a former director of the American School of Classical Studies at Athens, and author of numerous books and articles on Greek literature, died at Cambridge, Massachusetts, on June 11, 1949, at the age of 81.

Gnostic discovery

The Air Edition of the *Manchester Guardian Weekly* for June 23, 1949, reports the announcement, by J. DORRESSE, French papyrologist, of his recovery, in Egypt, of twelve codices totaling more than 1000 pages, dating from the third and early fourth centuries A.D., in Coptic script and said to constitute the earliest monuments

of the Coptic language. Of the twelve volumes, nine still have their ancient leather bindings; the other three, possibly intact when found, now consist of loose pages. In them, 37 distinct works are preserved complete, and five in fragments—virtually the whole corpus of scriptures and doctrine of the Gnostic sect. Some are apparently translations from Greek, others original Coptic compositions. Several can be identified as works previously known, or known of; most are new to science.

The volumes are said to have been found early in 1946 by Egyptian countrymen near Nag-Hammadi, on the east bank of the Nile thirty miles north of Luxor. Like the Avroman parchments and the now famous Ain Fashkha find of ancient Hebrew manuscripts, they were in a jar (jars?) which had provided safe protection through the centuries.

Gnostics were heretics from Christianity who in the second century A.D., under the stimulus of currents from Judaism, Classical and Egyptian mysticism, and other eastern religious thought, set up a new religion, rivaling Christianity though containing many elements in common with it. Even if we do not accept the appraisal of it as "the biggest find of papyri ever made in Egypt" (by the yardstick of Oxyrhynchus it does not loom immeasurably large), there seems good reason to think that this may turn out to be a most valuable and illuminating discovery.

Colt Grants

The Colt Archaeological Institute has announced the grant of \$300 to Mr. FRED WENDORF, JR., to study early sites in the Petrified Forest National Monument under the supervision of the Museum of Northern Arizona at Flagstaff, and \$150 to Dr. RUTH M. KELLER for the purchase of film and equipment in connection with a study of numismatic and other evidence for temple architecture in European Greece.

Stephens Reprint

The Rutgers University Press, New Brunswick, New Jersey, has reprinted an archaeological classic, JOHN LLOYD STEPHENS' two-volume *Incidents of Travel in Central America, Chiapas, & Yucatan*, first published by Harper and Brothers in 1841 (see also *ARCHAEOLOGY* 1.1.56, 1.3.174-5, and above, page 137). The irrepressible text has been cautiously edited by RICHARD L. PREDMORE, and of the lovely drawings for the original publication, made by STEPHENS' English companion FREDERICK CATHERWOOD, almost all have been retained; a portrait of STEPHENS and end-paper maps of his travels have been added for good measure; and boards and case are covered with a paper specially printed in patterns from Maya hieroglyphs. There is now no excuse for not having read the greatest of American travel writers (so VAN WYCK

BROOKS), and we congratulate all who had anything to do with the matter.

Kaminaljuyu

A. V. KIDDER, briefly in Cambridge between Guatemalan expeditions, writes:

"The past season's archaeological work of Carnegie Institution in Guatemala was a hectic one. My colleague, E. M. SHOOK, and I have been struggling to meet a deadline on reports on the product of former excavations. But there's a building boom on in Guatemala City which has resulted in the cutting down, to make bricks, of a number of mounds at the great site of Kaminaljuyu in the outskirts of town. In the largest of them there came to light two tombs that have swamped us with a vast amount of new and very interesting material. For this reason my stay in the States must be brief.

"The importance of the two tombs lies in the fact that they prove the mound — an enormous structure — to have been erected during the so-called Miraflores Phase, a very early one previously thought to represent a formative period during which the great ceremonial cultures of Middle America were just beginning to get under way. But the size of the mound, and the unexpectedly rich and varied mortuary furniture of the tombs, makes it certain that a highly developed and evidently stratified society, with a presumably theocratic government, must have existed at a much earlier time than had been believed.

"Because the custom of erecting dated stelae seems not to have started until after Miraflores times, we cannot date the tombs, but if currently held belief as to the correlation of Maya and Christian chronologies is correct, they should have been dug at about the time of Christ.

"They were great pits sunk from the summit platform of the mound and roofed with heavy logs. Each contained the skeleton of a priest or

ruler, those of sacrificed slaves or servants, and lavish offerings of pottery, jades, and stone vessels. The pottery, of which one tomb held over three hundred pieces, the other about a hundred and fifty, was horribly crushed when the tomb roofs collapsed. Getting it out was a long, slow process and getting it mended — this was a "must," because of its variety, its beauty, and its archaeological value — has been a super-jigsaw job. Working up the pottery and the many other objects has kept the noses of SHOOK and myself steadily on the grindstone. And the deadline is getting closer and closer!"

Anthropologists

The annual meeting of the American Anthropological Association will be held at the Hotel New Yorker, New York City, November 17 to 20, 1949. Symposia will be held on old world archaeology, American Indian physical types, and the relationship of the social sciences to anthropology.

The *News Bulletin* of the AAA, now edited by ALBERT C. SPAULDING of the Museum of Anthropology, University of Michigan, Ann Arbor, Michigan, now appears in handsome offset reproduction, decorated with patterns from Indian weaving.

The Western States Branch of the AAA was formally organized at a meeting held on April 16, 1949, at the University of Utah, Salt Lake City. The first officers include THEODORE D. McCOWN, President; F. H. DOUGLAS, Vice-President; and CARROLL A. BURROUGHS, Department of Anthropology, University of Washington, Seattle 5, Washington, Secretary-Treasurer. The *Western States Bulletin* will continue on a monthly basis, under the editorship of M. F. FARMER, San Diego Museum of Man, San Diego, California.

The American Association of Physical Anthropologists has established a new monograph series, *Studies in Physical Anthropology*. The first issue, recently published, reports an AAA-AAPA Symposium on "Early

Man in the Far East," and contains papers of interest to archaeologists by HELMUT DE TERRA, HALLAM L. MOVIUS, JR., G. H. R. VON KOENIGSWALD, EDWIN A. COLBERT, and †FRANZ WEIDENREICH.

Synthetic relics

We transcribe without comment an Associated Press dispatch from Cairo, dated May 1, 1949:

A cache of what police had believed were relics of ancient Egypt worth a fortune has turned out to be composed mostly of fakes.

Education Minister Ali Ayoub Bey said tonight the only genuine articles in the cache, found in a Cairo apartment, were old coins.

The pieces included fake statuettes of Pharaohs, Roman, Greek and Coptic documents, swords and daggers. All the articles had been packed for shipment and for sale abroad.

Dodecanese

In printing LUCY TALCOTT's 'Dodecanese Notes' in *ARCHAEOLOGY* 1.3.134-5 we appeared to overlook the work done in repairing and protecting the antiquities of the Dodecanese by the temporary British administration, which after the German surrender was set up to take charge of the islands until the Greeks were in a position to take the responsibility. A summary account of this work by Mr. T. BURTON BROWN appeared in *Antiquity* 22 (1948) 75-77: The British efforts were directed toward instituting necessary emergency repairs and reconstructing the Antiquities Service, restoring the Hospital of the Knights, in Rhodes city, as a museum of sculpture and exhibiting a representative series of Dodecanese archaeological material, ranging from late Neolithic to the Middle Ages. At Ialysos, "the remains of the Byzantine church and of the Hellenistic, and earlier, temple in the same area were freed from the barracks built on them in war time, as well as being weeded and cleaned. The fine Hellenistic fountain nearby, partly dismantled by the Germans for material for anti-blast walls, was reconstructed

and its protective railing rebuilt." This is the fountain an ALISON FRANTZ photo of which we printed alongside Miss TALCOTT's note. We are obliged to Mr. BROWN for reminding us of the effective action taken by him and his associates.

Mostly about People

CARLETON S. COON, of the University of Pennsylvania, was to spend the summer excavating mountain caves in Iran. . . . KARL LEHMANN of New York University's Institute of Fine Arts led a summer expedition back to Samothrace (see *ARCHAEOLOGY* 2.1.40). . . . The Belgian School in Rome, under the direction of F. DE VISSCHER, has opened excavations at Alba Fucense. . . . A new chair of Christian Archaeology has been established at the University of Padua; the first incumbent is SERGIO BETTINI. . . . FREDERICA DE LAGUNA, of Bryn Mawr College, spent the summer making an archaeological and ethnological survey in the Uniguit country of southeastern Alaska. . . . The United Fruit Company's project at Zaculeu in Guatemala has been concluded; RICHARD B. WOODBURY, archaeologist in charge, has turned over the restored ruins and museum to the Guatemalan government, and plans to spend the coming months in Cambridge, preparing a final report for publication in 1950. In the last four seasons fifteen mounds have been excavated, and nine have been restored to nearly their original appearance: terraced platforms supporting single one-room structures. . . . MATTHEW W. STIRLING is employing a helicopter in exploring ancient sites in Panama. . . . THOMAS WHITEMORE has resumed work at Santa Sophia in Constantinople. . . . The Chicago Natural History Museum's perennial Southwest Archaeological Expedition, directed by PAUL S. MARTIN, had its fifteenth season in the field, at Pine Lawn Valley in west central New Mexico. A summary of previous seasons by Dr. MARTIN appears in the June, 1949, number of

the *Chicago Natural History Museum Bulletin*. . . . EMIL W. HAURY, professor of anthropology at the University of Arizona and director of the Arizona State Museum, has received a Guggenheim Fellowship to study cultural chronology in the Andes. . . . The American School of Oriental Research, Jerusalem, sponsored a survey of the ancient Christian city of Madaba in Transjordan, under the direction of A. HENRY DETWEILER of Cornell University. The School itself is expected to be back in normal operation by fall, with staff and fellows. . . . A Greek delegation presented to President HARRY S. TRUMAN a marble slab, described as from the Temple of Winged Victory on the Acropolis at Athens, on which was inscribed a proxenos decree composed by G. P. OIKONOMOS, rector of the University of Athens. The President later loaned it to the Smithsonian Institution for public exhibition. . . . HENRY B. COLLINS, JR., of the Smithsonian Institution, was to spend the summer studying ancient Eskimo ruins on Cornwallis Island in the Canadian Arctic Archipelago, in cooperation with the National Museum of Canada, Ottawa. . . . CARL W. BLEGEN of the University of Cincinnati, director of the American School of Classical Studies at Athens in 1948-49, has stepped down; the new director is JOHN L. CASKEY, also of the University of Cincinnati and a member of Dr. BLEGEN's staff at the re-excavation of Troy.

Walters Exhibit

At the sale of the fabulous Brummer collection, held in New York earlier this year, the Walters Art Gallery, Baltimore, acquired items from Persia, Assyria, Egypt, Greece, and the Roman Empire.

These new accessions will be displayed in a special temporary exhibition to be held at the Gallery from September 27 to October 23, 1949, after which they will be distributed to their respective departments.

BRIEF NOTICES OF RECENT BOOKS

Prehistoric Men, by ROBERT J. BRAIDWOOD. 117 pages, ill. Chicago Natural History Museum, Chicago (1948) \$0.50. (Chicago Natural History Museum, Popular Series, Anthropology, No. 37)

The story of man's achievement in the remote Prehistoric Age is told with a fascinating simplicity in this small volume. His efforts to rise from the state of a food-gatherer to that of a food-producer, to shape his surroundings to his needs, to fashion tools that would make possible that change, and to find expression of his feelings in an art motivated by utilitarian ends, are described with a lucidity and a well-balanced objectivity seldom to be found even in scientific monographs.

Excellent illustrations and charts supplement the directness of the narrative and help give a rounded picture of the remote prehistoric times that form, according to the author, 99 per cent of the story of man's life on our planet. His achievement in the Stone Ages and in the Bronze Age is enlivened by the concise discussion of the problem of the prehistoric men themselves and of the earliest skeletal material known.

This volume will be hailed with enthusiasm both by the layman, for whom it was written, and by the scholar. It points the way to a much neglected duty of bringing to the public the work of the scholar in a simple and concise way. We hope that it will be followed by other equally successful studies which will open up the fascinating fields of Archaeology and Anthropology to the average reader.

G. E. M.

Egyptian Servant Statues, by JAMES H. BREASTED, JR. 113 pages, 99 plates. Pantheon Books, New York 1949 (Bollingen Series, No. 13) \$7.50

This is a delightful volume, interesting to the scholar as well as to the layman. The author has written a vivid study of the hitherto little discussed type of Egyptian statues and statuettes which served solely to perpetuate the necessities and amenities of everyday life for the benefit of the owner of the tomb in which they were placed. These "servant figures," as



they are ordinarily called, were not modeled in the attitude of one who, composed and serene, expects to appear before his god in the hereafter, but they were represented in their accustomed activities. As members of the estate and household of their master they are shown at work, and thus illustrate vividly how keen an observer the Egyptian artist was who knew how to capture the characteristic aspect of every chore and labor of his day.

Here we have the bakers and brewers; the women tending a fire, grinding grain, spinning and weaving; the farmhand plowing with a pair of cattle, as well as the models of boats teeming with the manifold tasks of crew members which sometimes number more than twenty. Musicians and dancers, too, are found among these

groups and give something of the lighter side of a nobleman's life in ancient Egypt.

The author has drawn his material not only from the great museums of Egyptian art, but also from such little-known collections as Bristol and Limoges, and he has clarified a number of scenes which until now had been misinterpreted. The volume contains a great number of beautiful illustrations and has been composed with the care and taste which distinguishes all publications in the Bollingen Series.

BERNARD V. BOTHMER
Museum of Fine Arts

Corpus of Ancient Near Eastern Seals in North American Collections, by EDITH PORADA and BRIGGS BUCHANAN. Volume I, xxvii, 187 pages, map, chronological table; Volume II, xvi pages, 1157 ills. on 176 plates. Pantheon Books, New York 1949 (Bollingen Series, No. 14) \$15

Students of the Arts of the Near East will welcome with enthusiasm this work, the first in a projected series of studies sponsored by the Oriental Institute of the University of Chicago, the Yale Babylonian Collection, and the Iranian Institute. Furthermore, they will be indebted to the American Philosophical Society, whose aid made possible the publication of the study.

The cylinders now in the Morgan Library, forming the largest collection in the country, are described and illustrated in a superb manner. The aim of the authors "to present the rich and varied material of the collection in such a manner as to make it available to the general reader who is interested in the art as a form of human expression, as well as to the specialist in ancient Near Eastern Archaeology," is attained with eminent success. Almost every variety of cylinder is repre-

sented in the collection by several examples that offer an almost complete survey of the entire field. These cylinders, however, were not found in excavations and therefore our authors are confronted with the problem of their classification. This they solve brilliantly by comparing their examples with excavated material and by a consideration of their aesthetic and historic significance.

In general the study leaves little to be desired and is characterized by lucidity, thoroughness, and objectivity. If the volumes to follow exhibit the same high qualities of scholarship the series will prove a great success.

G. E. M.

How the Greeks Built Cities, by R. E. WYCHERLEY. xxi, 228 pages, 52 figures in text, 16 plates. Macmillan, London 1949 (\$4.50)

Until a generation or so ago, our knowledge of the Greek city was derived from isolated buildings and from ancient texts—Pausanias above all, supplemented by disconnected observations in such authors as Thucydides and Xenophon, Plato and Aristotle, Strabo and Vitruvius. Excavators at Greek sites had too frequently been satisfied to clear the principal temple and a few meters around it—often not even the whole of its precinct. Even where archaeologists of broader vision had seen the *city* as the unit to be explored, and undertaken to dominate the obstacles to its large-scale excavation, the formal publication was in many cases long postponed.

In our time this situation has rapidly improved. Thanks to the progressing publication of sites dug earlier (Corinth, the Argive Heraeum, Sparta; Delos, Thera; Ephesus, Miletus, Priene, Pergamon, Assos) and the preliminary or final reports of important recent excavations (Olynthus, the Agora of Athens), it has now become possible to compile judicious generalizations about the early classical Greek city and its building types, and its growth and development, through the fifth and fourth

centuries, into the vast urban complexes of the Hellenistic period.

This Mr. WYCHERLEY, of University College, North Wales, has done and done very happily in this modest volume. Dividing his subject typologically into eight chapters (growth of the Greek City, town-planning, fortifications, agora, shrines and official buildings, recreation centers, houses, and fountain buildings), he has sketched the main outlines of our present knowledge of each.

The mother-cities of the Greek mainland had been built long before any concept of planning or directed growth arose; by the time Hippodamus, who, we are told, was the father of Greek city-planning, had demonstrated the advantages of the checker-board plan, there could be no thought of tearing down whole cities in order to start anew; their public buildings and dwellings were a form of national wealth which Greeks could not afford to destroy. So it was left for the new foundations of the fifth century (Peiraeus, the Athenian colony of Thurii, Olynthus with its fine checker-board), suburban extensions of old cities (Miletus), and the new cities after Alexander, to enjoy the debatable benefits of uniform streets and block sizes.

The word *agora*, says Mr. WYCHERLEY, is quite untranslatable; but to the reviewer the term 'marketplace' carries with it the mercantile, political, and social, if not the religious, associations of the agora, and its traffic and bustle and excitement as well. We are to distinguish clearly between the "Topsy" or "Jes' grew" type of marketplace (these are *not* terms coined, or used, by Mr. WYCHERLEY), which ended up by being surrounded by a miscellany of temples, stoas, and municipal offices (e.g., Athens), and the fiat agoras of the Hellenistic foundations, with continuous colonnades on three sides or four (e.g., Priene)—the 'horseshoe' and 'peristyle' types. When the latter became an enclosed building "turning in upon itself," "city life had lost something of its old quality, and the agora

had a less vital part to play, a less intimate relation with all the varied activities of the community" (page 82).

"Temple" and 'shrine' are very far from being synonyms. The handsome peripteral temples which we think of as characteristically Greek were luxuries possessed by only a few outstanding shrines amongst all the hundreds which were to be found in any large city. All that was necessary to make a shrine was that a piece of ground or a natural or artificial object should be dedicated to a deity" (page 89). The *sine qua non* was indeed the *temenos* or sanctuary, in which, if desired, one or more *naoi* or dwelling-places ('temples') might be built; those of Olympia (the Altis), Delphi, the Argive Heraeum, Epidaurus, Eleusis, and the Acropolis of Athens are *temenê* differing only in scale from such enclosures with single temple as those of Hephaestus at Athens, Aphaea at Aegina, and Athena Alea at Tegea, and from enclosures without temple such as the Theseum of Athens. The reviewer wishes that Mr. WYCHERLEY had called attention to the analogy between the Greek *temenos* and *naos* and the Roman sanctuary or *templum* within which an *aedes* or house might or might not be built; until the time of Augustus, *templum* meant the sanctified enclosure, not the god's dwelling within it. Surely these concepts share a common ancestry, and it has been suggested that *temenos* and *templum* share a common Indo-European root.

In the same chapter with shrines, under "official buildings," Mr. WYCHERLEY places the *stoa*, another word he finds untranslatable. But BOISACQ explains it as the collective of **stôwos* 'column'; *stoa* therefore means 'row of columns, colonnade,' and in any context where the Greek text has *stoa*, 'colonnade' renders it as well as 'stoa.' Whichever term we use, it will be found applied to buildings as diverse as a portico, the peristyle of a temple, a warehouse, an arsenal, the Thersilion at Megalopolis, the Hypostyle Hall at Delos, and the Roman basilica—which may, or

may not, have gotten its name from the Royal Stoa in the Agora of Athens, and its form as well, via some still missing link. The three-winged or horseshoe colonnade of which the Royal Stoa may have been the prototype was often laid out with the open side to the south, to provide the greatest benefit from the low winter sun, the greatest protection from the north wind, and a choice of sun or shade at all seasons and hours. As the building type most characteristic of urban life in Greece, the stoa might have deserved the distinction of a chapter to itself; and see above, pages 124-130.

Mr. WYCHERLEY has covered the subject thoroughly, very thoughtfully, and with total absence of cant; in a total of over seventy illustrations he has provided plans, or photographs, or both, of almost all the informative sites, building types, and important individual buildings; he has depended on archaeological testimony as far as it would take him, electing to supplement this from ancient texts rather

than the reverse; he assumes no encyclopaedic background on the part of the reader; he writes in a most pleasant, agreeable style; and unobtrusively toward the back of the book he has tucked a few pages of notes by chapters, containing virtually all the significant modern bibliography. This is a fine book for the amateur of Greece or ancient life in general, and at the same time an admirable summary for college students. Warmly recommended.

J. J.

Manual of Archaeological Surveying, by A. HENRY DETWEILER. x, 129 pages, 24 figures in text, logarithm tables, 3 specimen sheets from field books. American Schools of Oriental Research, New Haven 1948 \$1.75

This small volume will prove of great help to field archaeologists. It

was primarily written for architects assisting in excavations and is based on the experience of the author as an excavator and an architect. An accurate survey of a site before and after the excavations is a most essential part of the work of excavating and in our volume both the archaeologist and the architect will find suggestions and instructions that will facilitate their efforts and make their work more effective. The beginner will find sound information on methods of excavating, on recording architectural remains, on the use of aerial photography, on preparing surveys and architectural remains for publication. The expert, who naturally should be familiar with all these aspects of field work, will have in the volume a source to which he can direct his assistants. Two appendices, the first containing logarithms of numbers and trigonometric functions and the second specimen pages from the Dura field books, add to the completeness of the study.

G. E. M.

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Edited by GLANVILLE DOWNEY

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SET I

American Anthropological Association

FILM INDEX for 1949

Intended as a supplement to the H. W. Wilson *Educational Film Guide*, SET I of the AAA FILM INDEX gives descriptions of one hundred 16 and 35 mm. archaeological and ethnological films, and data on where these can be procured, prices for rental, sale, loan, and so forth. Many of these films were taken and are owned by anthropologists and have never been listed before. Several of those listed deal with New World excavations and archaeological techniques and methods. Old World archaeological and ethnological films are also indexed.

Price of Set I, \$2.00. Remittances should accompany orders: Checks should be made out to the American Anthropological Association and sent to E. W. VOEGELIN, *Executive Secretary*, Department of Anthropology, Indiana University, Bloomington, Indiana.

NEW BOOKS

Selected at the editorial offices from various sources, including bibliographical publications, publishers' announcements, and books received. Prices have not been confirmed.

ADRADOS, FRANCISCO R. El sistema gentilicio decimal de los Indoeuropeos occidentales y los orígenes de Roma. 185 pages. Consejo superior de investigaciones científicas, Madrid 1948

Art Through Fifty Centuries. 95 pages, ill. Worcester Art Museum, Worcester 1948

BROHOLM, H. C., WILLIAM P. LARSEN, and GODTFRED SKJERNE. The Lures of the Bronze Age. An archaeological, technical and musicological investigation. 129 pages, 36 figures in text, 3 tables, 30 plates. Gyldendal, Copenhagen 1949

Lures are cone-shaped wind instruments with cup mouthpieces and flat bells, manufactured, in pairs, of bronze, by casting.

BULLE, HEINRICH. Geleisestrassen des Altertums, mit einem Anhang über die Bronzebleche von Gurina. 133 pages, 30 plates. Verlag d. Bayer. Akad. d. Wiss., Munich 1948 (Sitzungsberichte, phil.-hist. Klasse, Jg. 1947, Nr. 2) 25 M.

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